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PAULATUK GRANULAR RESOURCES INVENTORY AND RECOMMENDATIONS FOR DEVELOPMENT (A part of the Inuvialuit Final Agreement Implementation Program - Task 7: Sand and Gravel Inventories)

> 0701-10526 MAY, 1991





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PAULATUK GRANULAR RESOURCES INVENTORY AND RECOMMENDATIONS FOR DEVELOPMENT

(A part of the Inuvialuit Final Agreement Implementation Program - Task 7: Sand and Gravel Inventories)

Submitted to:

GOVERNMENT OF THE NORTHWEST TERRITORIES DEPARTMENT OF TRANSPORTATION YELLOWKNIFE, N.W.T.

Prepared by:

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ABSTRACT

EBA Engineering Consultants Ltd. (EBA) was contracted by the Government of the Northwest Territories - Department of Transportation (GNWT-DOT) in February 1991 to complete an investigation of several potential granular borrow sources near Paulatuk, N.W.T., and to compile existing information on these sources into a borehole/test pit database. Based on existing and new field and granular resources inventory and development data. laboratory a recommendations are presented. The study was funded by the Inuvialuit Final Agreement Implementation Program (IFAIP) - Task 7: Sand and Gravel Inventories.

This report presents an evaluation of granular resources for Sources 12, 22, 23, and 24 in the Paulatuk area, including material classification, inventory, supply and demand, and borrow source development recommendations. A discussion of the computer database organization is also presented, as well as copies of the borehole/test pit logs and available laboratory test data. Details of EBA's 1991 investigation of Sources 12 and 23 are presented in Appendix B. Disk copies of the databases are presented under separate cover.

Total volumes of Class 2 granular materials inventoried are 19,640 m³, 79,480 m³, and 292,780 m³ for proven, probable and prospective volumes, respectively. Class 3 materials are 113,740 m³, 724,610 m³ and 4,034,110 m³ for proven, probable and prospective volumes, respectively. Class 4 materials are 379,990 m³, 3,552,770 m³ and 11,079,070 m³ for proven, probable and prospective volumes, respectively.



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1.0 INTRODUCTION

1.1 <u>Project Details</u>

The Government of the Northwest Territories, Department of Transportation (GNWT-DOT) retained EBA Engineering Consultants Ltd. (EBA) of Yellowknife in February 1991 to finalize the development and management plan for granular resources in the Paulatuk area. The purpose of the project was to tie together investigation data obtained by other consultants in 1988 and 1989 with data gathered by the GNWT-DOT in 1990 and with development recommendations prepared by EBA in 1987.

Authorization to proceed with this project was received on February 25, 1991 by Mr. Bryan Peterson, P.Geol., of GNWT-DOT under Service Contract No. SC291400. The project scope is as defined in the Contract Documents and in EBA's letter proposal dated February 13, 1991. The study was funded by the Inuvialuit Final Agreement Implementation Program (IFAIP) - Task 7: Sand and Gravel Inventories. The project was coordinated by Indian and Northern Affairs Canada (INAC), under the direction of Mr. Robert J. Gowan, P.Geol., Geotechnical Advisor, Natural Resources and Economic Development.

1.2 <u>Project Scope</u>

EBA's workscope can be summarized as follows:

- Conduct a field investigation of Sources 12 and 23 to obtain further geotechnical information.
- o Collect relevant granular resource information, testhole logs and laboratory data obtained for Sources 12, 22, 23, and 24 (proposed new airstrip location) in the Paulatuk area subsequent to EBA's 1987 work.
- Compile a borehole/testpit log database for the collected logs (about 80), using the standardized ESEBase format for compatibility with other DIAND databases.
- Revise the granular resource supply model for Paulatuk based on new and collected information.



- Comment on the granular resource demand for Paulatuk based on revised community and territorial development plans.
- o Prepare development recommendations for Sources 12, 22, 23, and 24 based on new and collected information.

1.3 <u>Previous Work</u>

EBA (1987) presented a report discussing the supply of granular materials (based on existing information) and the 20-year demand for granular materials (based on consultation with users) in the Inuvialuit Settlement Region, including the community of Paulatuk, Northwest Territories. Development scenarios and recommendations, designed to optimize the utilization of resources for the anticipated demand, were presented. Twenty-three granular sources were considered, three of which were of particular interest to Paulatuk. Hardy BBT and Avati (1988) presented an environmental and socioeconomic plan for the reservation and development of granular materials from the three granular sources identified in the Paulatuk area: Sources 12, 22 and 23. Hardy BBT (1989) prepared a proposed geotechnical investigation plan for potential sand and gravel reserves in the Inuvialuit Settlement Region, including the Paulatuk area. The GNWT-DOT (1991) conducted a field investigation for two sources: 22 and 23.

1.4 <u>Report Organization</u>

This report presents an evaluation of the granular resources for Sources 12, 22, 23, and 24 in the Paulatuk area, including material classification, inventory, supply and demand, and borrow source development recommendations. Figure 1 presents a site location plan for reference. A discussion of the computer database organization is also presented, as well as copies of the borehole/testpit logs and available laboratory test data.

Figure 1 shows a site location plan of the Paulatuk area, noting the sources included in this study.



Appendix B presents EBA's report for a site investigation conducted in March 1991 for Sources 12 and 23. The report comprises a summary of fieldwork and data acquired for each site. Testpit logs and laboratory data, including sieve and petrographic analyses, are included. Appendix C presents a Report Catalogue Dictionary and catalogue entries for reports covering the Paulatuk area. Appendix D presents a Source Database Dictionary and updated database entries for Sources 12, 22, 23, and 24. Logs of boreholes and testpits advanced by EBA and others are presented in Appendix E. Available laboratory data is presented in Appendix F.

2.0 CLASSIFICATION OF GRANULAR RESOURCES

2.1 <u>Material Quality</u>

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Terminology, adopted by INAC to identify the grade(s) of granular construction materials and reliability of reserve estimates, has been used in this report to classify potential granular sources, as follows:

- CLASS 1 Excellent quality material consisting of clean, well-graded, structurally-sound sands and gravels suitable for use as high quality surfacing materials, or as asphalt or concrete aggregate, with a minimum of processing.
- o CLASS 2 <u>Good quality material</u> generally consisting of well-graded sands and gravels with limited quantities of silt. This material will provide good quality base and surface course aggregates or structuresupporting fill. Production of concrete aggregate may be possible with extensive processing, except where deleterious materials are present.
- CLASS 3 Fair quality material consisting generally of poorly-graded sands and gravels with or without substantial silt content. This material will provide fair quality general fill for roads, foundation pads or lay-down yards.



- CLASS 4 <u>Poor quality material</u> generally consisting of silty, poorlygraded, fine-grained sand with minor gravel. These deposits may also contain weak particles and deleterious materials. They are considered suitable for marginal general (non-structural) fill.
- o CLASS 5 <u>Bedrock</u>, <u>felsenmeer or talus</u>, of fair to good quality. Potentially excellent sources of construction material, ranging from general fill to concrete aggregate or building stone if quarried and processed. Also could be developed for erosion control materials such as riprap or armour stone.

2.2 <u>Inventory</u>

The calculated volumes of the types of granular materials available at Sources 12, 22, 23, and 24 have been divided into certainty levels, as detailed below. These definitions are consistent with those used by INAC.

- o Proven A proven volume is one for which the occurrence, distribution, thickness and quality is supported by ground truth information such as geotechnical drilling, testpitting and/or exposed stratigraphic sections. Usually, the thickness of material encountered in a borehole is extrapolated to a radius not exceeding 50 m around the hole.
- o Probable A probable volume is one for which the existence and extent is inferred on the basis of direct and indirect evidence, including topography, landform characteristics, air photo interpretation, extrapolation of stratigraphy, geophysical data, and/or limited sampling. Probable volumes include proven volumes.
- Prospective A prospective volume is one for which the existence is suspected on the basis of limited direct evidence, such as air photo interpretation and/or general geological considerations. Prospective volumes include probable (and therefore proven) volumes.



The uncertainty associated with prospective volumes of granular material varies with terrain conditions. Thus, detailed investigation of a prospective source may result in a prospective volume of material becoming probable or proven, or a change in the class of the material. Alternatively, detailed investigation may reveal a prospective source to contain little or no useable granular material.

3.0 GEOLOGICAL SETTING

Glaciation, glaciofluvial outwash and marine transgression are all significant contributors to the nature and distribution of granular deposits at Paulatuk. The highlands south of the settlement are comprised of thick morainal soils deposited during the Amundsen and Great Bear advances of the Laurentide ice sheet (Yorath et al., 1975). Perhaps as little as 13,000 years ago, glacial ice covered Darnley Bay and Parry Peninsula (Flint, 1971). Under the weight of this ice, the land was isostatically depressed below present sea level; however, most of the area would have been above water level because a large portion of the world's water was locked in the glaciers. Mackay (1963) reports that the water level was 75 m below today's sea level only 16,000 years ago.

Between 13 and 10 thousand years ago, the glacier ice front retreated substan±ially and the Paulatuk area experienced many changes. As the ice melted =and sea level rose, the Hornaday River carried a large volume of meltwater and glaciofluvial sediments north to Darnley Bay. Airphotos show that a large esker-delta complex formed in the river mouth and spread westward into the area south of the community. Ridges of glaciofluvial material, separated by low lying poorly drained areas, suggest that ice contact deposits formed in Area 23. These appear to be derived from ice walled channels discharging through stagnant and broken glacier ice.

The area north of Paulatuk (Area 24) is flat lying and the soils are finer, suggesting that this area of the glaciofluvial delta was below sea level. The rise in sea level was much faster than the rebound in land levels after the weight of the glacier ice was removed. For a short time, the relative



elevation of sea level was more than 100 m above Paulatuk and areas far inland were flooded. The effect of marine transgression was to rework the surface soils, flatten slopes and erode thin deposits of glaciofluvial soils for the morainal soils south of Area 23. There are a few remnant raised beach features in Area 23 and further south; whereas Area 22 appears on airphotos to have been extensively modified by marine erosion.

The land emerged from the sea after a relatively short time and permafrost began to develop. Sometime during this period, the Hornaday River (or channel thereof) flowed through the Rat Lake channel. In the process, it eroded older glaciofluvial sediments and re-deposited some of these materials in terraces in Area 12. Further downstream, substantial erosion by the river removed much of the higher deltaic soils between Rat Lake and the present shoreline. Subsequently, coastal erosion, solifluction and eolian activity have continued to modify the terrain.

4.0 AVAILABILITY OF GRANULAR RESOURCES AT PAULATUK

The volume of granular resources near the community of Paulatuk was determined by summarizing existing data from site investigations, examining air photos and conducting field reconnaissance of prospective sources. These estimates were made by combining the areal extent of the sources (aerial photography and field measurements) with the stratigraphy determined from testpits and boreholes within each source.

The level of detail and reliability of field or laboratory methods used by the various contributors to the existing database have been inconsistent. Therefore, some estimates of quantities or quality have required judgemental interpretation. Section 8.0 of this report presents specific details on the information available for each source.

Figure 2 presents a site plan for Source 12. Figure 3 presents a site plan for Sources 22, 23 and 24. Both figures show borehole or testpit locations. It should be noted that the sources have been divided into subsources, as



indicated in the figures. These subsources facilitated computation of quantities and will be referred to in the following discussion.

The following paragraphs describe the proven, probable and prospective volumes of material of each class available at each of Sources 12, 22, 23, and 24, with some comments as to the suitability for various required uses. Table 1 presents a comparative summary of proven, probable, and prospective volumes determined for each source in 1987 (EBA, 1987) and 1991. Figure 4 presents volumes determined for each class in 1991. It should be noted that only prospective volumes were available in 1987 and that changes in volumes and classifications from EBA's 1987 study have occurred. Tables 2, 3, 4, and 5 present breakdowns of proven, probable, and prospective volumes of material by subsource (SS) and class.

- o CLASS 1 No Class 1 materials have been identified at any of the sources investigated to date. However, it may be that some material presently identified as Class 2 material from Source 12 (well graded gravel) and Source 23 (well graded sand) may be of Class 1 quality. To determine if these materials are suitable, further tests are recommended, including LA abrasion, magnesium sulphate soundness, and absorption.
- CLASS 2 Class 2 materials have been identified at Source 12 (well graded gravel, SS 12-A) and Source 23 (well graded sand, SS 23-T). Proven material volumes are 14,140 m³ from Source 12 and 5,500 m³ from Source 23. Probable and prospective volumes are 73,980 m³ and 279,480 m³, respectively, for Source 12 and 5,500 m³ and 13,300 m³, respectively, for Source 23.
- CLASS 3 Class 3 materials have been identified at Sources 12, 22, 23, and 24. Proven material volumes are 54,350 m³ (SS 12-B), 4,300 m³ (SS 22-A), 45,900 m³ (SS 23-A,B,C), and 9,190 m³ (SS 24-A) from Sources 12, 22, 23, and 24, respectively, for a total volume of 113,740 m³. Probable volumes are 466,060 m³, 4,300 m³, 70,760 m³, and 183,490 m³, respectively, for a total of 724,610 m³. Prospective volumes are



3,294,960 m³, 8,200 m³, 123,960 m³, and 606,990 m³, respectively, for a total of 4,034,110 m³. Some Class 3 material at Source 12 may be marginally classified as Class 2 material; much of the material is poorly graded, but with little fines.

- CLASS 4 Class 4 materials have been identified at Sources 12, 22, 23, and 24. Proven material volumes are 22,150 m³ (SS 12-A,B,E), 97,400 m³ (SS 22-A), 251,800 m³ (SS 23-B,C,D,G,H,K,L,M,S,T,U), and 8,640 m³ (SS 24-B) from Sources 12, 22, 23, and 24, respectively, for a total volume of 379,990 m³. Probable volumes are 340,750 m³, 443,500 m³, 2,450,280 m³, and 318,240 m³, respectively, for a total of 3,552,770 m³. Prospective volumes are 2,550,450 m³, 907,300 m³, 6,869,180 m³, and 752,140 m³, respectively, for a total of 11,079,070 m³.
- CLASS 5 No sources of Class 5 material have been identified within the Paulatuk study region, but boulders may be obtainable from Source 87-P-13 (EBA, 1987).

5.0 DEMAND FOR GRANULAR RESOURCES AT PAULATUK

Both EBA (1987) and Hardy BBT and Avati (1988) studied the demand for granular resources at Paulatuk. An updated version of the previous demand model is summarized in Table 6 and Figure 5. At present, it is concluded that the previously projected demands are still reasonable. However, it should be noted that the Hamlet of Paulatuk has expressed interest in constructing an all-season road to Rat Lake. The length of the proposed road is approximately 8 km. It is understood that the project has not yet been approved. If construction of the road is approved at some time in the future, the projected demands should be increased significantly, particularly for Class 2 and Class 3 materials.



6.0 BORROW SOURCE DEVELOPMENT RECOMMENDATIONS

6.1 <u>General</u>

Paulatuk's granular material has historically been obtained from a pit located a few kilometres south of the Hamlet (part of Source 23), as indicated in Figure 3. The material is only fair in quality but, due to the modest demands imposed by the community, there had been few substantial borrow pit development activities. This pit is presently nearing depletion.

With the construction of the new airstrip and proposed roadway construction, the demand for granular resources will require significant development of borrow sources. An attempt was made to develop Source 22 in 1990. It is understood that construction was impeded by a lack of appropriate equipment. Development of Source 12 has now begun, with the present borrow area indicated on Figure 2.

EBA has reviewed the general guidelines and recommendations for development of borrow source management plans presented in EBA (1987). These were based on guidelines presented by Hardy BBT (1987), MacLaren Plansearch (1989) and Hardy BBT (1990). Little change was required; therefore, the reader should refer to EBA (1987) and the guideline documents for complete details. In all cases, pit development and restoration should be in accordance with good practice and the recommendations presented by MacLaren Plansearch (1989).

Specific recommendations for Sources 12, 22, 23 and 24 are presented in the following sections. The level of detail presented for each source reflects the quantity and quality of information available for a particular deposit.

6.2 <u>Source 12</u>

 General - Source 12 can be considered a major source of Class 2 and Class 3 materials. Its development is recommended for projects requiring large quantities of granular materials, such as the airstrip



which is presently under construction and future roads which may be constructed.

It is recommended that development progress along the crest of the ridge (SS 12-A,B), generally northwest from the area presently being developed. Class 4 material appears to prevail east of the area presently being developed (SS 12-E).

- o Access Source 12 is located west of the Hornaday River and immediately north of Rat Lake. It is presently accessible from Paulatuk only during the winter by a tundra/ice road. It is recommended that granular materials continue to be removed by winter haul because an all-season access would have to traverse rugged and/or low lying terrain. It would seem that the projected demands, after airstrip construction is completed, do not justify the effort and potential quantities of fill involved.
- o Site Preparation One pit is presently under development by the GNWT-DOT at the southwest corner of the deposit. The site boundaries were not observed during EBA's investigation. The present area should be delineated if this has not already been done. As no topsoil as such exists on the site, no stripping, stockpiling or windrowing of topsoil is required.

No inorganic overburden exists at the present developed portion of the site; however, when pit development proceeds to the north end of the deposit, some stripping and stockpiling of overburden (Class 4 material) will be required to reach the Class 2 or 3 materials, unless the material is hauled out immediately for Class 4 fill requirements.

If waste material is encountered during subsequent development, it should be stockpiled for reclamation. Fine grained materials at depth could have high ice contents. Such materials should be stockpiled and allowed to drain. Working space between the stockpiles and the pit should be provided. A dyke of drier overburden material around waste piles may be required to prevent flow of thawed waste onto working spaces or into pit areas.

o Extraction Methods - Extraction of the active layer should be feasible during the winter by using conventional equipment comprising bulldozers with rippers and loaders because the soil in this layer should have a low moisture content. In areas where Class 2 or 3 material is prevalent (SS 12-A,B), the gravel was well drained, and the thickness of the active layer appeared to be in excess of 2 m. Some areas composed of silty sand at the surface may be difficult to extract in the winter due to high moisture contents in the frozen material.

In subsequent years, the layer which has thawed and drained the previous summer should be rippable. If extraction is to proceed into permafrost, blasting may be required.

Based on observations of the slope angles on the face of the ridge, it is estimated that the gravel deposit may be approximately 5 m thick. However, it should be recognized that the proven thickness does not exceed 2.1 m to 2.4 m.

- Drainage Considerations Present drainage at the site is to the southwest, towards Rat Lake. The pit floor should be graded to maintain surface drainage towards Rat Lake.
- o Treatment of Massive Ice and/or Permafrost No massive ice has been encountered to the depth investigated (2.4 m maximum). However, in the silty sand or fine-grained deposits at the site, the active layer may be on the order of 0.5 m thick. It is possible that massive ice may be encountered within the permafrost. If massive ice is encountered, it may either be excavated and wasted or covered with an insulating blanket of granular material and left in place.
- Restoration Following completion of large-scale extraction activities,
 the pit area should be restored to blend with the local topography.



Restoration includes cleanup and erosion control. Restoration should primarily consist of contouring abandoned areas of the pit to aid adequate drainage and reduce the possibility of large volumes of water becoming trapped within the pit area. Natural revegetation is recommended, as the present vegetation is sparse grasses.

6.3 <u>Source 22</u>

o General - An attempt was made to develop Source 22; however, it is understood that construction difficulties hindered production. A significant volume of Class 4 material and a minor volume of Class 3 material exists in the source. It is understood that the GNWT-DOT will make a further attempt to extract Class 4 material from this source for use in airstrip construction. The Class 4 material would used together with Class 3 gravel from Source 12. The intent is to reduce the quantity of gravel hauled from Source 12.

Source 22 should not be relied upon as a source of Class 3 material.

- Access Access is possible via all-season road.
- o Site Preparation Because the source forms the western beach of the Paulatuk peninsula, the existing shoreline should not be disturbed. In addition, access to the Hamlet facilities south of the source should be maintained. Therefore, it is recommended that a strip, at least 30 m wide be left undisturbed along the west edge of the deposit.
- Extraction Methods It is expected that permafrost in Source 22 will be difficult to rip. Therefore, extraction by means of scraping off seasonally thawed soil is recommended.
- Drainage and Erosion Considerations It is understood that the Hamlet's water supply is already, or will very soon be, obtained from a new Water Lake. When this occurs, it is considered that drainage from Source 22



can be directed to the former Water Lake, which is directly east of the source.

The soils in Source 22 are susceptible to erosion. Therefore gradients should be kept to the minimum (less than 2.5 percent), which will ensure positive drainage and yet not promote unnecessary channels to develop. More small ditches are preferable to fewer larger ditches.

o Treatment of Massive Ice and/or Permafrost - Based on the testpit logs, no massive ice was encountered within the depth investigated (1.1 m maximum). However, excess ice should be expected, particularly in permafrost, which can occur anywhere below about 0.5 m. Soil which presently contains excess ice will not be very trafficable upon thaw until it has had an opportunity to drain. This soil will not be useful for placement of fill until it has drained. Stockpiling or windrowing the soil may facilitate drainage. However, stable slopes may be quite flat, depending on the moisture content of the soil.

If massive ice is encountered, it may either be excavated and wasted or covered with an insulating blanket of granular material and left in place.

o Restoration - Following completion of extraction activities, the pit should be restored to blend with the local topography. Restoration should consist primarily of contouring the abandoned areas of the pit to provide for adequate drainage, as well as the control of erosion. Natural revegetation should be allowed to occur, as the present vegetation is sparse grasses.

6.4 <u>Source 23</u>

General - Source 23 has been identified as a potential source of Class
 2, 3 and 4 materials. The Class 2 (SS 23-T) and 3 (SS 23-A,B,C)
 materials have been identified in localized deposits, as indicated in
 Figure 3. The development of this source for use on major projects is



not recommended because of the relatively small volume which have been proven to date. However, it is likely that the Hamlet can continue to meet its routine demands from this source. Based on the available information, we recommend that SS 23-B be developed as the next Hamlet pit. Fill for building areas or road maintenance could be obtained from Source 23, although potential frost susceptibility will be a consideration for building pads.

- o Access The northeast portion (presently developed) of the source is located south of the community of Paulatuk and is accessible from Paulatuk on a year-round basis by an all-season road. Other portions of the site could also be accessible on an all-season basis. Some fairly rugged terrain exists. Consideration may need to be given to earthmoving operations in localized areas to provide access. Cuts through permafrost or loose materials should be avoided to reduce the risk of causing erosion or thawing problems.
- o Site Preparation The existing pit is operated by the Hamlet of Paulatuk. Plans for future expansions of the existing pit or development of other parts of this source should address the following items. A layer of topsoil or granular soil with a trace of organics exist over most of the source. The organic layer should be stripped and stockpiled or windrowed for future reclamation of the site. Inorganic overburden exists over some portions of the site; this soil should also be stripped and stockpiled separately for reclamation purposes.
- o Extraction Methods Extraction of gravel within the active layer should be possible in either the summer or the winter. A ripper will be required in the winter. In areas where sand is prevalent, it is recommended that extraction only occur when the soil is thawed.
- o Drainage and Erosion Considerations The new Water Lake for the Hamlet is contained within a low-lying area of Source 23. There is a risk that as pit locations are developed, sediments will be washed into Water Lake. Extreme care should be taken to ensure this does not occur. Pits



should be graded to ensure water is directed away from Water Lake; if this is not possible, then the pit should not be developed.

The soils within and underlying pits are susceptible to erosion; therefore, gradients should be kept to the minimum possible to provide for positive drainage.

o Treatment of Massive Ice and/or Permafrost - Based on the testpit logs, no massive ice was encountered within the depth investigated (1.5 m maximum). However, excess ice should be expected, particularly in permafrost, which can occur anywhere below about 0.5 m. Soil which contains excess ice will not be very trafficable upon thaw and will not be useful for fill placement until it has drained. Stockpiling or windrowing the soil may facilitate drainage. However, stable slopes may be quite flat, depending on the moisture content of the soil.

If massive ice is encountered, it may either be excavated and wasted or covered with an insulating blanket of granular material and left in place.

o Restoration - Following completion of extraction activities, the pit should be restored to blend with the local topography. Restoration should primarily consist of contouring the abandoned areas of the pit to provide for adequate drainage and the control of erosion. Natural revegetation should be allowed to occur, as the present vegetation is sparse grasses.

6.5 <u>Source 24</u>

Source 24 was delineated because the existing borehole logs indicate that this area contains Class 3 and 4 materials. The new airstrip will be located on the western portion of this source, and Hamlet development has occurred on the eastern portion of the source. Therefore, borrow resource development is not recommended for this area. To EBA's knowledge, no excavations have been made in the area; thus, there should be no need for site restoration at present.



7.0 RECOMMENDATIONS FOR FURTHER INVESTIGATION OF BORROW AREAS

Recommendations by MacLaren Plansearch (1989) indicate an ideal borehole spacing of 50 m to prove a source of granular material, and subsequent testpitting programs to provide material for laboratory testing and water level information. At present, EBA considers that such detail may not be required for most of the area of investigation, but that some areas of special interest may merit a more detailed investigation. For instance, portions of Sources 12 and 23 which show Class 2 materials, and portions of Source 12 that are presently classified as Class 3 materials but have the potential to be reclassified as Class 2, may be considered for further investigation. EBA will provide further information in this regard upon request.

8.0 GRANULAR RESOURCE DATABASE ORGANIZATION

8.1 <u>General</u>

For this project, EBA has compiled three databases in formats similar to those used for previous granular resource projects. These databases comprise a report catalogue (to record all reports containing granular information), a source database (to record detailed descriptions of individual granular sources) and a borehole database (to record stratigraphic and laboratory test data). Trimble and Gowan (1990) provide a good overview of the preparation of these databases.

The report catalogue contains five reports specific to the Paulatuk area. Three sources (12, 22 and 23) previously compiled into a database (EBA, 1987), and subsequently updated by Inuvialuit Lands Agreement (ILA) staff in 1988, have been updated and another source (24 - proposed airstrip area northwest of Paulatuk Hamlet) added. A borehole/testpit database comprising 80 testholes advanced at each of the four sources was also compiled.

Some of the major tasks that were required to complete the databases include:



- a) Confirm the availability of and acquire copies of reports, maps, borehole logs and test results from various government departments.
- b) Compile information to be input into the report catalogue and source database.
- c) Interpret and standardize, in ESEBase format, the stratigraphic, index test (soil moisture content, gradation analyses) and permafrost data for each borehole or testpit.
- d) Review and edit the final entries as required.
- e) Prepare floppy disk and paper copies of the report catalogue entries, source database entries and the borehole/testpit logs.

8.2 <u>Methodology</u>

The GNWT-DOT, Transport Canada, INAC, and ILA provided valuable data for the database compilation. Borehole and testpit logs were reviewed and rationalized into standard ESEBase format, and are intended to be accurate stratigraphic and textural interpretations of the original logs.

A list of references used for this study is included in this report.

8.3 <u>Deliverables</u>

Final deliverables required under this contract are listed as follows:

- Report catalogue database for the Paulatuk area in two copies of floppy disks.
- b) Source database for the Paulatuk area in two copies of floppy disks.
- c) Borehole/testpit database for the Paulatuk area in two copies of floppy disks.



d) This summary of the work undertaken and significant aspects of the databases.

8.4 <u>Data Presentation</u>

The report catalogue is presented on a disk in a database called 'PL91CAT'. The source database is in a database called 'PL91SRCE'. Eighty logs are included in a database called 'PL91LOGS'.

A report catalogue dictionary and entries are presented in Appendix C. The report catalogue is in dBase III+ format. Appendix D presents a source database dictionary and entries, also in dBase III+ format. Appendix E presents borehole and testpit logs in ESEBase format and Appendix F contains laboratory test data comprising grain size analyses.

8.5 <u>Project Participants</u>

Personnel from EBA's Yellowknife office were primarily involved in this project, compiling the logs and preparing the databases. EBA Whitehorse staff provided the review process. EBA Calgary staff provided specialized analysis of soil samples (petrographics) and a review of the geological setting.

Liaison with Government departments was conducted by EBA Yellowknife staff. The following organizations and people should be acknowledged for their assistance:

- o The Government of the Northwest Territories Department of Public Works
 - Bryan Peterson, P. Geol.
 - Rob Nelson
- o Transport Canada
- o Indian and Northern Affairs Canada
 - Robert Gowan, P. Geol.



Inuvialuit Lands Agreement
 Steve Kerr

8.6 <u>Database Description</u>

Most items contained in the report catalogue are explained in sufficient detail in the Appendix C Data Dictionary. Additional clarification is required for two cross-reference fields: study number and source number. These fields are used in the report catalogue, source database and borehole/testpit database.

8.6.1 Study Number

The study number identifies the report from which borehole information is obtained and is used as a link to other databases. The study number field is ten characters long, allowing four characters to identify the study sponsor, two characters for the year of the study, and up to four characters for the geographic area or local name. For example:



8.6.2 Source Number

Source numbers are as used in the past. Generally, the prefix '87-P-' used in EBA's 1987 report (for example, 87-P-23) has been neglected in subsequent correspondence and discussion of the sites. In the main text of this report, this has been done as well; however, the original format is used in the computer databases in order to preserve the year of 'discovery' of the deposits.



8.6.3 Borehole/Testpit Number

To accommodate similar borehole or testpit numbers from logs acquired in different areas or at different times, some renaming and renumbering has been done. This renumbering follows a similar format to that done for databases in other regions (for example, the Beaufort Sea). ESEBase allows eight characters for a borehole name. Two characters have been allotted to distinguish each of: region, year drilled or excavated, type of testhole, and testhole number. For example:



8.6.4 Location

Borehole and testpit locations were estimated based on UTM gridlines plotted on an uncontrolled air photo mosaic.

8.6.5 Reference to Sea Level

All borehole and test pit elevations have been estimated relative to sea level, with the exception of the Source 23 boreholes. No elevations were available for these boreholes and, as the terrain is rugged, estimates of borehole elevation based on estimated locations would be quite conjectural. EBA is not aware of any document or field notes which may contain either the elevations or further location details; however, should such information become available, it can be added to the database.

Terrain at the Source 12 site was less rugged, and test pit elevations could be estimated using field notes, air photos and a 1:50,000 scale topographic map. The elevation of the test pit at Source 23 (PL91TP01) was estimated in the same manner.



Test pit elevations for the Source 22 test pits were interpolated from a 1:2,000 scale topographic plan provided by the GNWT-DOT. Borehole elevations for the Transport Canada boreholes were presented on the original logs.

8.6.6 Sample Type

Only disturbed samples were obtained from both boreholes and test pits. On the logs, disturbed samples are abbreviated 'DIST' in the 'Sample Data' section of ESEBase. Sample depths were unknown for the Source 22 test pits and for the Transport Canada boreholes; thus, no samples are shown on these logs.

8.6.7 Soil Description

The stratigraphic information on the logs includes the following components, where available:

- o principal component (e.g. GRAVEL, SAND, SILT, etc.)
- o Unified Soil Classification (USC, e.g. GP, SW, ML, etc.)
- o principal component modifier(s) (e.g. sandy, trace silt, etc.)
- o particle shape (e.g. subrounded)
- o structure (e.g. layered)
- o consistency (e.g. medium dense)
- o plasticity (e.g. low plastic)
- o moisture (e.g. damp)

```
o colour (e.g. brown)
```

o ground ice description (e.g. Nbn - frozen, no excess ice, well bonded)

No indication of the depth of penetration for the machine-dug test pits at Source 22 was available; these test pits have been assigned an arbitrary depth of 1.0 m.



8.6.8 Soil Classification Data

Where available, moisture content, grain size analyses, Standard Proctor moisture/density relationships, and Unified Soil Classification (USC) data have been included in the database.

All moisture contents from the original logs have been included. No moisture contents were available for the Transport Canada boreholes nor the Source 22 test pits. It should be noted that moisture contents for the Source 23 boreholes were based solely on visual estimates of moisture content in the field by the logger.

For some test pits, grain size analyses were used to check and provide USC classifications. Stratigraphy entered in the 'Soil Description' section of ESEBase have USC classifications in upper and lower case letters. Uppercase letters (e.g. SP) imply that there is soil test data to confirm the classification, while lower case USC classifications (e.g. sp) imply that there is only an estimate of the USC classification.

On occasion, there is soil test data reported which is insufficient to fully determine the classification. For example, if a grain size analysis has been done, but silt and clay contents have not been distinguished and no Atterberg limits are available. Thus, if a soil description is incomplete (for instance, for a sand with a high fines content), it would be difficult to say whether the sand should be classed as 'SM' or 'SC'. In these cases, lower case classifications (e.g. 'sm') are used, particularly if the logger made no attempt at classification. All USC classifications have been entered in upper case letters in the 'Sample Data' section of ESEBase where test data is available.

All available grain size data has been included in the database. 'D50' data has been input where available. Fines contents are presented in the 'silt' field in the 'Basic Soil Characteristics Data' section of ESEBase.



8.6.9 Ground Ice Description and Sample Temperature

The ground ice description standard used for this database follows the guidelines established by the National Research Council of Canada (NRC). Where available, ground ice information has been stored in the 'Ground Ice Description' field of the 'Scientific, Permafrost, and Rock Data' section of ESEBase. Soil sample temperatures were not available for any of the boreholes or test pits advanced to date, but can be presented on the borehole logs if future logs contain temperature data.

8.7 <u>Summary of Databases</u>

In total, 80 borehole and test pit logs from the Paulatuk area have been summarized in a database intended to allow interpretation of the distribution of granular resources and restrictions on their development. Regular maintenance of the report catalogue, source database and borehole/testpit database, by updating annually with new borehole data, will provide a reliable source of data on Paulatuk granular resources.

9.0 CLOSURE

Recommendations and data presented herein are based on a geotechnical evaluation of the findings in 10 test pits and existing data for 70 boreholes/test pits. The conditions reported are considered to be reasonably representative of the sites. However, if conditions other than those reported are noted during subsequent phases of the project, EBA should be notified and given an opportunity to review the present recommendations in light of the new findings.

General limitations are presented in Appendix A of this report.

EBA trusts that this information satisfies your requirements. If you have questions or comments, please contact the undersigned.



Respectfully submitted,

EBA Engineering Consultants Ltd.

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ho Otther there.

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TABLES



SOURCE	DISTANCE (km)	MATERIAL CLASS	MATERIAL VOLUMES (m ³) EBA 1991			CONSIDERATION EBA 1987		
			PROVEN	PROBABLE1	PROSPECTIVE ²	PROSPI		
12	8.0	2(1)	14,140	73,980	279,480	1,200,000	major source	
		3	54,350	466,060	3,294,960	-	major source	
		4	22,150	340,750	2,550,450	-	major source	
22	1.0	3	4,300	4,300	8,200	-	minor source	
		4	97,400	443,500	907,300	250,000	major source	
23	1.5-3.0	2(1)	5,500	5,500	13,300	-	minor source	
		3	45,900	70,760	123,960	2,200,000	major source	
		4	251,800	2,450,280	6,869,180	-	major source	
24	1.0	3	9,190	183,490	606,990	-	major source	
		4	8,640	318,240	752,140	-	major source	
13	11.5	2	-	-	-	2,500,000	boulders?	
		5	-	-	-	2,500,000	boulders?	
TOTALS ³	-	2	19,640	79,480	292,780	1,200,000	-	
		3	113,740	724,610	4,034,110	2,200,000	-	
		4	379,990	3,552,770	11,079,070	250,000	-	

TABLE 1 - SUMMARY OF GRANULAR RESOURCE SUPPLY
NEAR PAULATUK, N.W.T.

1 2 3

Probable volumes include proven volumes Prospective volumes include probable (and proven) volumes Total of Sources 12, 22, 23 and 24



SOURCE	MATERIAL CLASS	MA	MATERIAL VOLUMES (M ³)			
		PROVEN	PROBABLE	PROSPECTIVE	TOTAL	
12-A	2	14,140	59,840	205,500	279,480	
	3	-	-	-	-	
	4	3,690	9,970	-	13,660	
12-B	2	-	-	-	-	
	3	54,350	289,570	994,000	1,337,920	
	4	3,690	27,770	-	31,460	
12-C	2	-	-	-	-	
	3	-	122,140	353,000	475,140	
	4	-	-	70,600	70,600	
12-D	2	-	-	-	-	
	3	-	-	-	-	
	4	-	-	28,200	28,200	
12 - E	2	-	-	-	-	
	3	-	-	-	-	
	4	14,770	280,860	629,000	924,634	
12-F	2	-	-	-	-	
	3	-	-	1,481,908	1,481,900	
	4	-	-	1,481,900	1,481,900	
12-G	2	-	-	-	-	
	3	-	-	-	-	
	4	-	-	1,481,900	1,481,900	
TOTALS	2	14,140	59,840	205,500	279,480	
	3	54,350	411,710	2,828,900	3,294,960	
	4	22,150	318,600	2,209,700	2,550,450	

TABLE 2 - GRANULAR SUPPLY BREAKDOWN
SOURCE 12



SOURCE	MATERIAL CLASS	MA			
		PROVEN	PROBABLE	PROSPECTIVE	TOTAL
22-A	2	-	-	-	-
	3	4,300	-	3,900	8,200
	4	97,400	346,100	463,800	907,300
TOTALS	2	-	-	-	-
	3	4,300	-	3,900	8,200
	4	97,400	346,100	463,800	907,300

TABLE 3 - GRANULAR SUPPLY BREAKDOWN SOURCE 22



SOURCE	MATERIAL CLASS				
		PROVEN	PROBABLE	PROSPECTIVE	TOTAL
23-A	2	_	-	-	-
	3	13,200	21,800	37,500	72,500
	4	-	-	-	-
23-B	2	-	-	-	-
	3	30,600	3,060	15,700	49,360
	4	11,230	29,000	50,300	90,530
23-C	2	-	-	-	-
	3	2,100	-	-	2,100
	4	1,890	3,280	4,100	9,270
23-D	2	-	-	-	-
	3	-	-	-	-
	4	33,400	23,200	66,500	123,100
23-E	2	-	-	-	-
	3	-	-	-	-
	4	-	-	151,200	151,200
23-F	2	-	-	-	-
	3	-	-	-	-
	4	-	-	394,300	394,300
23-G	2	-	-	-	-
	3	-	-	-	-
	4	35,300	180,600	240,000	455,900
23 - H	2	-	-	-	-
	3	-	-	-	-
	4	84,800	1,054,770	1,266,000	2,405,300
23-J	2	-	-	-	-
	3	-	-	-	-
	4	-	-	120,900	120,900
23-К	2	-	-	-	-
	3	-	-	-	-
	4	7,070	260,300	297,200	564,570
23-L	2	-	-	-	-
	3	-	-	-	-

TABLE 4 - GRANULAR SUPPLY BREAKDOWN SOURCE 23


SOURCE	MATERIAL	MATERIAL VOLUMES (m ³)			
	CLASS	PROVEN	PROBABLE	PROSPECTIVE	TOTAL
	4	35,300	349,300	427,400	812,000
23-M	2	-	-	-	-
	3	-	-	-	-
	4	14,100	13,000	30,200	57,300
23-N	2	-	-	-	-
	3	-	-	-	-
	4	-	-	51,300	51,300
23-P	2	-	-	-	-
	3	-	-	-	-
	4	-	-	369,000	369,000
23-Q	2	-	-	-	-
	3	-	-	-	-
	4	-	-	211,600	211,600
	2	-	-	-	-
	3	-	-	-	-
	4	-	-	223,800	223,800
23-S	2	-	-	-	-
	3	-	-	-	-
	4	7,070	87,200	104,800	199,070
23 - T	2	5,500	-	7,800	13,300
	3	-	-	-	-
	4	14,570	9,300	29,300	53,170
23 - U	2	-	-	-	-
	3	-	-	-	-
	4	7,070	188,800	217,700	406,500
23-V	2	-	-	-	-
	3	-	-	-	-
	4	-	-	163,300	163,300
TOTALS	2	5,500	-	7,800	13,300
	3	45,900	24,860	53,200	123,960
	4	251,800	2,198,480	4,418,900	6,869,180

TABLE 4 (cont'd) - GRANULAR SUPPLY BREAKDOWN SOURCE 23



SOURCE	MATERIAL	MATERIAL VOLUMES (m ³)			
	CLASS	PROVEN	PROBABLE	PROSPECTIVE	TOTAL
24-A	2		_	-	-
	3	9,190	174,300	423,500	606,900
	4	-	-	-	-
24-B	2	-	-	-	-
	3	-	-	-	-
	4	8,640	309,600	433,900	752,140
TOTALS	2	-	-	-	-
	3	9,190	174,300	423,500	606,990
	4	8,640	309,600	433,900	752,140

TABLE 5 - GRANULAR SUPPLY BREAKDOWN SOURCE 24



MATERIAL			TIME PERIOD		
		1991-1996	1997-2001	2002-2006	
CLASS 1	Demand, m ³ Source(s)	700 87-P-12,23	10 87-P-12,23	-	
CLASS 2	Demand, m ³ Source(s)	12000 87-P-12,23	2000 87-P-12,23	2000 87-P-12,23	
CLASS 3	Demand, m ³ Source(s)	270000 87-P-12,23	20200 87-P-12,23	20200 87-P-12,23	
CLASS 4	Demand, m ³ Source(s)	- 87-P-12,23	-	-	
CLASS 5	Demand, m ³ Source(s)	100 87-P-12,13	-	-	

TABLE 6DEMAND FOR GRANULAR RESOURCES
PAULATUK, N.W.T.

NOTES:

- 1. After EBA 1987; airport construction moved to 1991-1996.
- 2. An all weather road to Rat Lake has not been included in the demands shown; if built, this will increase estimated demands significantly.
- 3. The suitability of Source 12 material (gravel) or Source 23 material (sand) as Class 1 granular material has not been fully determined. Further testing is required.
- 4. Source 87-P-23 is the southern extension of Paulatuk's current granular material supply. The source was designated a Class 3 deposit in 1987, however, further field work has shown it to also contain significant quantities of Class 4 materials and minor quantities of Class 2 materials.
- 5. There is no readily available Class 5 material in the area; however, material may be obtainable from Source 87-P-13 (boulders) or from oversize material from Source 87-P-12.



FIGURES













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FIGURE 4 SUPPLY OF GRANULAR RESOURCES - PAULATUK



FIGURE 5 CUMULATIVE DEMAND FOR GRANULAR RESOURCES - PAULATUK

APPENDIX A GENERAL CONDITIONS



EBA ENGINEERING CONSULTANTS LTD. GEOTECHNICAL REPORT GENERAL CONDITIONS

A.1 USE OF REPORT AND OWNERSHIP

This geotechnical report pertains to a specific site and development. It is not applicable to adjacent sites nor is it valid for types of development other than that to which it refers. Any variation from the site, or development, necessitates a geotechnical review in order to determine the validity of the design concepts evolved herein.

This report is not to be reproduced in part or in whole without consent in writing from EBA Engineering Consultants Ltd. (EBA). Additional copies of the report, if required, may be obtained upon request. Isolated information, logs of borings, or profiles are not to be reproduced, copied or transferred.

A.2 NATURE AND EXACTNESS OF SOIL DESCRIPTION

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

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

A.3 LOGS OF BORINGS

The boring logs are a compilation of conditions and classification of soils as obtained from field observations and laboratory testing of selected samples. Soil zones have been interpreted. Change from one geologic zone to the other, indicated on the logs as a distinct line, is in fact, transitional. The extent of transition is interpretive. Any circumstance which requires precise definition of soil zone transition elevations may require special evaluation.

A.4 STRATIGRAPHIC AND GEOLOGIC SECTIONS

The stratigraphic and geologic sections indicated on drawings contained in this report are evolved from logs of borings. Stratigraphy is known precisely only at the locations of the borings. Actual geology and stratigraphy between borings may vary from that shown on these drawings. Natural variations in geologic conditions are inherent and a function of historic environment. EBA does not represent the conditions illustrated as exact but recognizes that variations will exist. Where knowledge of exact locations of geologic units is necessary, it is cautioned that such determination requires special attention.

A.5 GROUNDWATER CONDITIONS

Groundwater conditions represented in this report refer only to those observed at the times recorded on logs of borings, and/or within the text of this These conditions vary with geologic report. detail between borings; annual, seasonal and special meteorologic conditions; and with construction activity. Where instruments have been established to record aroundwater variations on an ongoing basis, the records will be specifically referred to. Interpretation of groundwater conditions from observations and records is judgmental and constitutes an evaluation of circumstances as influenced by geology, meteorology and construction activity. Deviations from these observations, may occur. No other warranty, express, or implied, is made by EBA.

A.6 PROTECTION OF EXPOSED GROUND

Excavation and construction operations expose geologic materials to meteorological elements. Many geologic materials deteriorate rapidly upon exposure to climatic elements. Severe deterioration of materials may be caused by precipitation and/or the action of frost on exposures. Unless otherwise specifically indicated in this report, walls and floors of excavations must be protected from elements, particularly all forms of moisture, desiccation from arid conditions and frost action.

A.7 SUPPORT OF ADJACENT GROUND AND STRUCTURES

Unless otherwise advised, support of excavation walls, ground adjacent to anticipated construction activity and of structures adjacent to the construction, must be provided. The support of ground and structures adjacent to the anticipated construction, with preservation of adjacent ground and structures from the adverse impact of construction activity, is therefore required.

A.8 INFLUENCE OF CONSTRUCTION ACTIVITY

There is a direct correlation between construction activity and adjacent structural performance. The influence of all anticipated construction activities should by considered by the contractor, owner, architect and prime engineer in consultation with a geotechnical engineer when the final design and construction techniques are known. EBA provides no warranty in respect to adverse circumstances resulting from construction activity.

A.9 OBSERVATIONS DURING CONSTRUCTION

Because of the nature of geologic deposits, the judgmental character of the art of soil and foundation engineering, as well 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 then may serve as the basis for confirmation and/or alteration of geotechnical recommendations or design guidelines presented herein to the benefit of the project.

A.10 DRAINAGE SYSTEMS

Where 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 performance of the drains. Specific design detail of such systems should be developed or reviewed by the geotechnical engineer. Unless otherwised specified, it is a condition of this report that effective drainage systems are required and that they must be considered in relation to project purpose and function.

A.11 BEARING CAPACITY

Design bearing capacities, loads and allowable stresses quoted in this report relate to a specific soil type and soil condition. Construction activity and environmental circumstances can materially change a soil condition. The elevation at which a soil type occurs is variable. It is a requirement of this report that structural elements be founded in and/or upon geologic materials of the type and in the condition assumed. Sufficient observations should be made by qualified geotechnical personnel during construction to assure that the soil conditions assumed in this report exist in fact.

-

A.12 SAMPLES

EBA will retain all soil and rock samples for 30 days. Further storage or transfer of samples can be made at owner expense upon written request.

A.13 STANDARD OF CARE

Services performed by EBA for this report are conducted in a manner consistent with that level and skill ordinarily exercised by members of the profession currently practicing under similar conditions. No other warranty, express or implied, is made.

APPENDIX B

GEOTECHNICAL FIELDWORK AND DATA REPORT



1.0 INTRODUCTION

EBA Engineering Consultants Ltd. (EBA) conducted a site evaluation of Source 12 and a portion of Source 23 near Paulatuk, NWT, in March 1991. The purpose of the evaluation was to provide additional information on the granular resources available at each site. This appendix provides a summary of field and laboratory work conducted by EBA at these sites, as well as soil stratigraphy and groundwater descriptions, testpit logs, and laboratory test results.

2.0 PROJECT DETAILS

Portions of both granular material sources are presently being developed. It is understood that the portion of Source 23 presently being worked is becoming depleted, and that an alternate source is required for the Hamlet of Paulatuk. Source 12 has recently been opened for development by the GNWT-DOT, for use in constructing the new airstrip. Information regarding material extent, quality and quantity is required for both sources.

3.0 SITE LOCATION AND SURFACE CONDITIONS

The site at Source 12 was located west of the present main channel of the Hornaday River, north of the western half of Rat Lake. Figures 1 and 2 in the main report present location and site plans. The site was approximately 8.0 km from the southeast end of the Hamlet of Paulatuk, with an investigated area of approximately 1.5 km by 1.0 km. Elevations were approximately 13 m to 15 m above sea level (estimated from a 1:50,000 topographic map). Drainage was generally southwest into the Rat Lake basin, which then drained northwest. Site access was good.

The testpit advanced at Source 23 was located approximately 1.3 km southeast of the southeast corner of the Paulatuk cemetery (south end of the Hamlet). The site was located on a knoll, approximately 10 m above sea level (estimated from a 1:50,000 topographic map). Locally, the terrain was rolling and



drainage was generally northward. Site access was good. The geology of local granular soils is discussed in Section 3.0 of the main report.

4.0 FIELDWORK AND LABORATORY TESTING

On March 22 and 24, 1991, a geotechnical site investigation was conducted at Sources 12 and 23. EBA's site representative was Mr. Ed Hoeve, P.Eng. GNWT-DOT's Caterpillar D-8 dozer had excavated testpits at each location. Ten testpits (1 at Source 23 and 9 at Source 12) were logged. Depths ranged from 0.3 m to 2.4 m below grade (to refusal), depending on material type and degree of ground freezing. It is understood that testpits were backfilled by GNWT-DOT.

Soil descriptions were logged and ground ice types and contents were estimated in the field. Representative samples were selected from the testpits, packaged in sealed plastic bags and 5 gallon pails, and shipped by air to EBA's laboratory in Yellowknife, NWT. Laboratory testing was carried out on the samples to aid in determination of engineering properties. Laboratory tests included the following:

- o Soil moisture content
- o Grain size analysis
- o Organic content
- o Petrographic analysis

Testpit logs are presented in Appendix E (hole numbers PL91TP01 to PL91TP10). The laboratory test results are summarized on the testpit logs, and separately in Appendix F.

5.0 SOIL STRATIGRAPHY AND LABORATORY TEST RESULTS

5.1 <u>Source 23</u>

At Source 23, the soil encountered comprised layers of sand and gravel, sand, and silt. In Testpit PL91TP01, sand and gravel was encountered at ground



APPENDIX B

surface to a depth of 0.9 m below grade. The sand and gravel had traces of silt, cobbles, organics, and rootlets. Traces of carbonates and oxides were present on the gravel particles. The deposit was poorly graded and crossbedded, with subangular to subrounded particles. The deposit was damp (6 percent moisture at 0.6 m depth) and brown in colour. The gradation of one sample from the deposit was determined. It comprised approximately 53 percent sand, 42 percent gravel and 5 percent fines. Ground ice in the deposit was generally poorly bonded, with a trace of ice coatings on particles. Ice content was visually estimated at approximately 2 percent.

A petrographic analysis was conducted on a sample of sand and gravel obtained from a depth of 0.6 m. The results of the petrographic analysis are shown in Appendix F. Approximately 90 percent of the particles were coated with calcite which included trapped sand particles. Based on visual observations, the calcite coating is moderately strong. The coating is generally found on only one side of the particles. The uncoated surfaces of the particles are generally porous, soft, and can be peeled with a pocket knife. These observations provided the reason for assigning a petrographic multiplier of 3 to the dolomitic sandstone and the dolomite, as shown in Table F-1. The weighted average petrographic number is 261 for the sand and gravel. LA Abrasion, magnesium sulphate soundness, and absorption tests are recommended to determine the actual strength of the coatings and the durability of the particles. This material is not recommended for use in concrete.

Underlying the sand and gravel, a layer of fine silty sand was present to 1.6 m below grade. The sand had a trace to some gravel, with a trace of organics and rootlets. It was uniformly graded, damp (6 percent moisture) and light brown. Ground ice in the sand ranged from poorly bonded to well bonded, with no excess ice.

Silt was encountered beneath the silty sand and was present to the full depth of the testpit (1.7 m). The silt contained some sand, with a trace of clay, and was a non-plastic, layered deposit. The silt was moist (22 percent moisture), grey-brown and considered to be permafrost. The silt was well bonded and had excess ice.



5.2 <u>Source 12</u>

At Source 12, layers of gravel, sand, and gravel and sand were encountered. The testpit logs in Appendix E provide details.

Testpit PL91TP02 was advanced within the present developed borrow area and PL91TP03 was advanced along the edge of the bank of the developed portion of the borrow area. Materials encountered in the testpits were similar, generally comprising poorly graded gravel, with Testpit PL91TP02 being sandy, and Testpit PL91TP03 having some sand. Both testpits showed a trace of silt and clay, with Testpit PL91TP02 at 3.3 percent fines and Testpit PL91TP03 at 7.5 percent fines. A trace of carbonates and oxides was present on the gravel particles.

The gravel was subrounded to subangular, with approximately 5 percent of the material being larger than 75 mm, and the largest particle observed at 300 mm diameter. The gravel deposit was massive (no bedding evident), damp (7 to 8 percent moisture), and brown with oxide stains. Material encountered in Testpits PL91TP02 and PL91TP03 comprised approximately 73 percent gravel, with 24 percent and 19 percent sand, respectively. Ground ice in the gravel was generally poorly bonded, with a trace of ice coatings on the particles. Ice content was visually estimated at approximately 2 percent.

A petrographic analysis was conducted on a sample of gravel obtained from a depth of 1.5 m. The results of the petrographic analysis are presented in Appendix F. The sieve fraction 25-20 mm was included in the analysis because it accounts for 12.5 percent of the sample (or 20.0 percent of the 5^{+} mm fraction. An average, 20 percent of the particles were coated with sand cemented with calcite. Based on visual observations, the calcite coating is moderately strong. Chert is a major component of the sample. Alkali aggregate reaction and LA Abrasion tests should be performed if the gravel is to be considered for concrete aggregate. An LA Abrasion test is recommended to determine the actual strength of the coatings and the durability of the particles. This material is not recommended for use in concrete, unless



results of these tests are favourable. The material may be suitable for use in asphalt.

Material present in Testpits PL91TP04, PL91TP05, PL91TP07, and PL91TP08 comprised sand, silty or with some silt, with traces of gravel, clay, and organics. Cobbles and boulders up to 250 mm diameter were observed in Testpit PL91TP04. Gravel particles were generally subrounded. The sand was very moist to saturated (12 to 22 percent moisture), with ground ice varying from poorly bonded to well bonded. In Testpits PL91TP05 and PL91TP08, ice coatings were present on the particles, with excess ice present in PL91TP08. Visible ice contents were estimated at approximately 1 to 2 percent.

In Testpit PL91TP06, gravel and sand (gravel 54 percent, sand 44 percent) was encountered at the ground surface to the full depth of the testpit at 2.4 m below grade. The gravel and sand contained traces of cobbles, silt, clay, and organics. Maximum particle size encountered was 150 mm. The gravel was generally subrounded to subangular, a massive deposit, damp (3 to 4 percent moisture), and brown. Traces of carbonates were present on the gravel, and sandstone fragments were present at 1.5 m below grade. Fines content of the gravel and sand was approximately 2 percent. Ground ice was generally poorly bonded with small zones of well bonded ice. No excess ice was present.

Material in Testpits PL91TP09 and PL91TP10 comprised a layer of silty sand overlying gravel. The sand contained traces of gravel, clay, organics, and rootlets, and was poorly graded, layered, saturated (17 to 19 percent moisture), and brown in colour. The sand was present to 0.3 m below ground surface. The sand was well bonded, with a trace of excess ice present. Ice coatings were present on the particles in PL90TP10.

The underlying gravel layer ranged from sandy to some sand near the ground surface, becoming gravel and sand at depth (54 to 57 percent gravel, 39 to 44 percent sand). Traces of cobbles (to 150 mm observed maximum size), silt, clay, and organics were also present. Fines content ranged from 2 to 4 percent. The gravel was subrounded to subangular, a massive deposit, damp (2 to 4 percent), and brown. Traces of carbonates were present on the gravel



particles. The gravel was poorly graded in Testpit PL91TP09 and well graded in Testpit PL91TP10. Ground ice in the gravel ranged from poorly bonded to well bonded with no excess ice.

6.0 GROUNDWATER CONDITIONS

No evidence of seepage or groundwater was observed at the time the testpits were logged. The testpits remained open and dry during logging. However, it is anticipated that seepage and groundwater is seasonally present at these sites, and that seepage would likely occur at the base of the seasonally thawed gravel at both Sources 12 and 23 during spring, summer and/or fall while ground thawing occurs.

7.0 PERMAFROST

The depth to permafrost at the location of Testpit PL90TP01 in Source 23 is considered to be approximately 1.7 m. The depth to permafrost at Source 12 could not be determined. All ground was frozen at the time of the investigation. It is expected that the permafrost table occurs at depths below those exposed in the test pits because the ground ice conditions observed were not considered to be indicative of an active layer/permafrost transition.



APPENDIX C

REPORT CATALOGUE DICTIONARY AND ENTRIES



CATALOGUE OF GRANULAR RESOURCES - RELATED INFORMATION

DATA DICTIONARY - REPORT CATALOGUE

PART A: <u>STUDY REFERENCE AND LOCATION</u>

AA - STUDY NUMBER:

A unique study identifier number which serves as a link to other databases (e.g. Source Database, ESEBase Borehole Database).

AB - YEAR:

The calendar year in which the majority of the field work on the study was complete. (e.g. 1983)

ABI - MONTH:

The month in which the majority of the field work was completed (e.g. 07)

AC - SPONSOR:

The name of the company, department, agency or organization sponsoring the study. (e.g. Indian and Norther Affairs Canada, Yukon Transportation Engineering, Public Works Canada)

- AC1 SPONSOR JOB/FILE NUMBER:
- AD SPONSOR CONTACT NAME:

The name of the person within the sponsoring organization who might be contacted to obtain additional information on the study and/or authorization for its use.

AE - CONTRACTOR:

The name of the prime contractor, consultants or group contracted by the sponsor to undertake the study (e.g. EBA Engineering Consultants Ltd., Northern Engineering Services Company Ltd.)

AE1 - CONTRACTOR JOB/FILE NUMBER:

The contractor's file number



AE2 - CONTRACTOR CONTACT NAME

AE3 - REPORT TITLE:

The title of the original report

AF1 - MINIMUM ZONE:

The UTM zone in which the southwestern corner of the enclosing block occurs. (e.g. 07)

AF2 - MINIMUM EASTING:

The UTM grid line of the western extremity of the enclosing block. (e.g. 381987)

AF3 - MINIMUM NORTHING:

The UTM grid line of the southern extremity of the enclosing block. (e.g. 7548335)

AG1 - MINIMUM LATITUDE:

The latitude in decimal degrees of the southern extremity of the enclosing block (e.g. 69.72345)

AG2 - MINIMUM LONGITUDE:

The longitude in decimal degrees of the eastern extremity of the enclosing block (e.g. 135.03926)

AH1 - CENTRE LATITUDE:

The latitude in decimal degrees of the centre of the enclosing block (e.g. 70.72345)

AH2 - CENTRE LONGITUDE:

The longitude in decimal degrees of the centre of the enclosing block (e.g. 135.53926)

AI1 - CENTRE ZONE:

The UTM zone of the centre of the enclosing block (e.g. 08)



AI2 - CENTRE EASTING:

The UTM grid line of the centre of the enclosing block (e.g. 476321)

AI3 - CENTRE NORTHING:

The UTM grid line of the centre of the enclosing block (e.g. 7602500)

AJ1 - MAXIMUM ZONE:

The UTM zone in which the northeastern corner of the enclosing block occurs (e.g. 08)

AJ2 - MAXIMUM EASTING:

The UTM grid line of the western extremity of the enclosing block. (e.g. 567428)

AJ3 - MAXIMUM NORTHING:

The UTM grid line of the northern extremity of the enclosing block (e.g. 7661560)

AK1 - MAXIMUM LATITUDE:

The latitude in decimal degrees of the northern extremity of the enclosing block (e.g. 70.72345)

AK2 - MAXIMUM LONGITUDE:

The longitude in decimal degrees of the western extremity of the enclosing block (e.g. 136.03926)

AL - GENERAL LOCATION - AREA NAME

-regional or local name in location map/ plan

AM - LOCATION MAP NUMBER:

The map or plan number of any small scale accompanying regional map or trackplot which indicates the location of the study area, or series of separate detailed study/borrow sites or regional survey lines.



AN - LOCATION MAP FORMAT:

The format or type of data containing the location of the study area, or series of separate detailed study/borrow sites or regional survey lines (e.g. paper copy; mylar original, folded blueline).

AO - LOCATION MAP SCALE:

The scale, expressed in terms of the representative fraction (e.g. 1:250,000) of any small scale accompanying regional map or trackplot which indicates the location of the study area, or series of separate detailed study/borrow sites or regional survey lines. The denominator only of the representative fraction is given since the numerator is consistently "1" (e.g. 250000)

AP - LOCATION MAP DIGITIZER NUMBER:

A unique five digit identifier number, to be assigned by INAC, which identifies a data set of points, lines, or polygons to be digitized from the location plan. This number links the report catalogue database to INAC's spatial database system.

AQ - LOCATION MAP ARCHIVING:

The general availability and where appropriate, specific location of storage of any map or plan number of any small scale accompanying regional map or trackplot which indicates the location of the study area, or series of separate detailed study/borrow sites or regional survey lines (e.g. sponsor/ contractor in-house, private/public repository, government agencies, etc.)

AR - SITE PLAN/SITE NAME:

Site or block name in site plans

AS - SITE PLAN NUMBER:

The map or plan number(s) of up to six larger scale accompanying local maps, site plans or trackplots which indicate the location of individual detailed study/borrow sites, boreholes/testpits/grab samples or detailed survey grids for separate study/borrow sites within the main study area.



AT - SITE PLAN FORMAT:

The format(s) or type(s) of up to six larger scale accompanying local maps, site plans or trackplots which indicate the location of individual detailed study/borrow sites, boreholes/testpits/grab samples or detailed survey grids for separate study/borrow site within the main study area (e.g. paper copy; mylar original, folded blueline).

AU - SITE PLAN SCALE:

The scale(s), expressed in terms of the representative fraction(s) (e.g. 1:50,000, 1:10,000) of up to six larger scale accompanying local maps, site plans or trackplots which indicate the location of individual detailed study/borrow sites, boreholes/testpits/grab samples or detailed survey grids for separate study/borrow sites within the main study area. The denominator only of the representative fraction is given since the numerator is consistently "1" (e.g. 5000)

AV - SITE PLAN DIGITIZER NUMBER:

A unique five digit identifier number or series of numbers, to be assigned by INAC, which identifies a data set of points, lines or polygons to be digitized from the site plans. This number links the report catalogue database to INAC's spatial database system.

AW - SITE PLAN ARCHIVING:

The general availability and, where appropriate, specific location of storage of up to six larger scale accompanying local maps, site plans or trackplots which indicate the location of individual detailed study/borrow sites, boreholes/testpits/grab samples or detailed survey grids for separate study/borrow sites within the main study area (e.g. sponsor/contractor in-house, private/public repository, government agencies).

AX - SOURCE NUMBERS:

A cross-reference field (to the source catalogue, when prepared) which lists the source numbers of the sources included in the report.

AY - SURVEY LINE NUMBERS/LOCATION DETAILS:

Description of geophysical or hydrographic survey line numbers or locations, or further location details of geotechnical studies.



PART B: <u>STUDY DETAILS</u>

BB - STUDY TYPE:

The type of data collected during the study or sub-study (e.g. hydrographic, geophysical, seabed sampling, geotechnical, dredging)

BC - STUDY SCOPE:

The areal scope of the study or sub-study (e.g. regional, site specific single site, many sites)

BD - STUDY SIZE:

The extent of size of the study in terms of number of potential borrow sites identified, number of testpits or boreholes, or total number of line kilometres of geophysical data. (e.g. 21 sites; 55 BH's; 145 km)

BE - SURVEY LEVEL:

The general purpose or level of detail of the study (e.g. airphoto interpretation, reconnaissance, exploration, delineation, production)

BF - SURVEY PATTERN:

The pattern in which the individual borrow sites within the study area occur, or in which boreholes or survey lines within specific detailed study sites were laid out. (e.g. random, corridor, line, grid)

BG - SURVEY SPACING:

The relative (e.g. random, wide) or actual (range and/or average) spacing of the survey data or study site. (e.g. 250 m E-W, 500 m N-S; 10 - 15 km)

BH - PROGRAM LENGTH/SURVEY LENGTH:

The length of the field data collection or survey program, in days or showing specific dates.

BI - SEASON:

The season of the year in which the field data collection or survey program was conducted. (e.g. late summer, winter)



BJ - EQUIPMENT TYPE:

The type(s) of equipment used to collect data or obtain samples. (e.g. hand-excavated testpits; D8 cat; sonic drill; CME 750 Auger drill, etc.)

BK - PENETRATION:

The average penetration of drilling or soil sampling equipment, (e.g. 5, 7.5, 10), directly related to the equipment type.

BL - RESOLUTION:

The suitability of the data for distinguishing variations in subsurface stratigraphy, expressed in relative (e.g. poor, variable, unknown) or actual (e.g. range and/or average in tenths of metres) terms. (e.g. 0.5)

BM - SAMPLING/RECORDING RATE:

The relative (e.g. continuous, intermittent, slow) and/or actual rate of sampling or recording. (e.g. samples at 1 m intervals; chart speed)

BN - SAMPLE/RECORDING QUALITY:

A description of the relative overall quality or range in quality of the data, samples or records with regard to its use for determining subsurface stratigraphy and/or borrow quality. (e.g. poor-fair, good, disturbed, etc.)

BO - SAMPLE/RECORDING TYPE(S):

Additional details on the type(s) of samples (e.g. 75 mm diam. CRREL core, 1-2 kg grab samples, 100 mm sonic casing) or records obtained with the indicated types of equipment.

BP - SAMPLE/RECORDING SIZE:

The total number(s) of samples obtained during the study, where appropriate, and related to the Sample/Recording type(s) (e.g. 75 grabs, 15 CRREL core)



BQ - INTERPRETATION/TESTING LEVEL:

The extent of laboratory testing of samples (e.g. routine classification testing only, concrete aggregate suitability testing); or the level of detail of the interpretation of geophysical records (e.g. field, preliminary, detailed) or geotechnical data (e.g. pit plans for 3 sources), as appropriate.

BR - REPORT LEVEL:

The type or level of detail of any report(s) resulting from the study. (e.g. annotated records, field logs/report only, summary/data compilation report, formal geophysical interpretation/geotechnical evaluation report)

BS - REPORT DISTRIBUTION:

The extent of distribution and/or general availability of any reports resulting from the study. (e.g. internal, sponsor/contractor only, specific government department/agencies/libraries, published)

BT - DATA ARCHIVING:

The general availability and, where appropriate, specific location of storage of raw data obtained during the study. (e.g. sponsor/contractor in-house, private/public repository, government agencies).

BU - OTHER REPORTS:

Related to present report or sources covered in present report.

BY1 - COMPILER:

Record compiled by (company/name).

BY2 - COMPILE DATE:

Date record compiled.

BY3 - DATA COMPILATION PROJECT NUMBER:



BZ1 - UPDATER:

Record updated by (Company/Name).

BZ2 - UPDATE DATE:

Date record updated (most recent).

BZ3 - DATA UPDATE PROJECT NUMBER:



PAULATUK COMMUNITY GRANULAR RESOURCES INVENTORY Indian and Northern Appairs Canada Catalogue of Granular Resource-related Information
STUDY NUNBER: TC82PL MONTH: 7 YEAR: 1982
SPONSOR : TRANSPORT CANADA JOB NU : CONTACT: <u>Contractor :</u> Transport Canada JUB NU : Contact: Report Title: Unknown
COORDINATES :MINIMUMCENTREMAXIMUMUTM:20NE:1010EASTING:457250458400NORTHING:76940007696000OR:LATITUDE:LONGITUDE:
LOCATION: NAME : PAULATUK NAME : PAULATUK PAULATUK-PROPOSED NEW AIRSTRIP
NUMBER: SCALE: 1: 1: Format: Archiv: DIG NO:
SOURCE NUMBER(S): 91-P-24
SURVEY LINES / LOCATION DETAILS:
DESCRIPTION OF STUDY AND SURVEY DETAILS: TYPE : GEOTECHNICAL SCOPE: 1 SITE LEVEL: PRELIMINARY DRILLING
SIZE : 5 BH Survey Pattern: Line Survey Spacing: 100m Season: Summer Program Length: 1 Day, 1982 July 25
EQUIPMENT : HAND AUGER
PENETRATION: 0.6-0.8-0.9
RESOLUTION : APPEARS GOOD
INFORMATION ON SAMPLES OF SURVEY RECORDS: Rate : Unknown Buality: Unknown Type : Unknown Size : Unknown
LEVEL OP DETAIL: INTERPRETATION/AWALVSIS/REPORTING: INTERP : STRATIGRAPHY, SOIL FROZEN/UNFROZEN, GROUNDWATER SEEPAGE REPORT : UNKNOWN DISTRIB: TRANSPORT CANADA OTHER :
ARCHIVING OF INFORMATION: Repurt : Transpurt Canada Data : Transport Canada
DATA COMPILATION AND UPDATING: Compiled by: EBA Engineering Consultants LTD. Date : 91/03/31 compilation project no.: 0701-10526 Updated by :
DATE : UPDATE PROJECT NO. :



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PAULATUK Ini Catalogue	COMMUNITY GRANULA DIAN AND NORTHBRN DF GRANULAR RESOL	IR RESOURCES INVENTORY I Appairs Canada URCE-RELATED INFORMATION
<u>Study Kunber:</u> Inac86nC	MONTH: YEA	AR: 1986
SPONSOR : INDIAN AND NORTHERN JOB NU : Contractor : Transport Canada JOB NU : REPORT TITLE: GRANULAR RESOURCES	AFFAIRS CANADA CONTACT: ROBERT CONTACT: - VARIOUS NORTHEI	60WAN RN SITES
COORDINATES : MINIHUM	CENTRE	MAXIMUM
EASTING: NORTHING: DR: LATITUDE: LONGITUDE:		
LOCATION: GENERAL LOCATION NAME : NORTHERN CANADA	PAULATUK	SITE PLAN
NUMBER: SCALE : 1: Format: Archiv: Dig No:	1:	
SOURCE NUMBER(S): 87-P-12,87-P-2	2	
SURVEY LINES / LOCATION DETAILS:		
DESCRIPTION OF STUDY AND SURVEY TYPE : GEOTECHNICAL-GRANULAR RES SCOPE: VARIOUS NORTHERN SITES LEVEL:	DETAILS: JURCES	
SIZE : SURVEY PATTERN: SURVEY SPACING: SEASON:	PROGRAM LENGTH	1:
EQUIPMENT :		
PENETRATION:		
RESOLUTION :		
INPORNATION ON SAMPLES OR SURVE Rate : Quality: Type : Size :	Y RECORDS:	
LEVEL OF DETAIL: INTERPRETATION INTERP : REPORT : LETTER REPORT DISTRIB: SPONSOR/CONTRACTOR OTHER ;	/ANALYSIS/REPORT	<u>ING:</u>
ARCHIVING OF INFORMATION: REPORT : SPONSOR/CONTRACTOR DATA : SPONSOR/CONTRACTOR		
DATA COMPILATION AND UPDATING: CUMPILED BY EBA ENGINEERING CU DATE : 91/03/31 COMPIL UPDATED BY : DATE : L	DNSULTANTS LTD. ATION PROJECT NO	.: 0701-10526).:



	PAULATUK CONMUNITY GRANULA INDIAN AND NORTHERN CATALOGUE OF GRANNLAR RESOL	AR RESOURCES INVE APPAIRS CANADA IRCR-RELATED INPO	NTORY RNATION
STILLY NUMBER GNWT87P	MONTH: 4 YEA	AR: 1987	
SPONSOR : GOVT OF NI JUB NU : CONTRACTOR : EBA ENGIN JUB NU : 01014575 REPORT TITLE: INUVIALUI	NT - DOT, INAC CONTACT: EERING CONSULTANTS LTD. CONTACT: DON HA' T SETTLEMENT SAND AND GRAV	YLEY EL INVENTORY AND	RECOMMENDATIONS FOR DEVELOPMEN
COORDINATES : MINIM UTM: ZONE: EASTING: 4557 NORTHING: 76890 OR: LATITUDE: LONGITUDE:	<u>UM ÇENTRE</u> 10 10 50 00	MAXIMUM 10 488000 7694000	
LOCATION:	1 004 T 101		
NAME : NORTHERN CANADA	PAULATUK PAULATUK	SITE PLAN	
SCALE : 1:	1:		
FORMAT: ARCHIV: INAC,EBA DIG NO:	INAC, EBA		
SDURCE NUMBER(S): 87-P-	-1 TO 23		
SURVEY LINES / LOCATIO	N DETAILS:		
DESCRIPTION OF STUDY A TYPE : GEOTECHNICAL - SCOPE: 23 SITES LEVEL: PRELIMINARY, AI	ND SURVEY DETAILS: GRANULAR RESOURCES RPHOTO INTERPRETATION		
SIZE : 23 S SURVEY PATTERN: N/A SURVEY SPACING: N/A SEASON: N/A	ITES PROGRAM LENGTH	I: N/A	
EQUIPMENT : N/A			
PENETRATION: N/A			
RESOLUTION : N/A			
INPORNATION ON SAMPLE: RATE : N/A QUALITY: N/A TYPE : N/A SIZE : N/A	<u>s or survey records;</u>		
LEVEL OF DETAIL: INTE INTERP : GEOLOGY, GRA REPORT : FORMAL GEOTE DISTRIB: GNWT,INAC,EB OTHER :	RPRETATION/ANALYSIS/REPORT NULAR MATERIAL PROSPECTIVE CHNICAL REPORT A	I <u>ng:</u> Quàntities and G	WALITIES, BORROW PIT DEVELOPMENT
ARCHIVING OP INPORNAT Report : GNWT,INAC,EB Data : GNWT,INAC,EB	<u>'ION:</u> A A		
DATA COMPILATION AND COMPILED BY: EBA ENGI DATE : 91/03/31	UPDATING: Neering Consultants LID, Compilation project no	.: 0701-10526	
UPDATED BY : Date :	UPDATE PROJECT NO	.:	
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PAULATUK II CATALOGUB	CONNUNITY GRANULAR RESOURCES INVENTORY NDIAN AND NORTHERN APPAIRS CANADA OF GRANULAR RESOURCE-RELATED INFORMATION
STUDY NUMBER: INAC88PL	MONTH: 12 YEAR: 1988
SPONSOR : INDIAN AND NORTHERI JOB NO : CONTRACTOR : HARDY BBT LTD., AVA JOB NO : CE00992/P REPORT TITLE: PLAN FOR THE RESER	N AFFAIRS CANADA CONTACT: ROBERT GOWAN TI ASSOCIATES CONTACT: NESBITT,HOWELL VATION AND DEVELOPMENT OF GRANULAR MATERIALS IN THE VICINITY OF
COORDINATES : MINIMUM UTM: ZONE: 10 EASTING: 455750 NORTHING: 7689000 OR: LATITUDE: 0.00000 LONGITUDE:	<u>CENTRE</u> 10 488000 7694000
LOCATION: NAME : PAULATUK	PAULATUK
NUMBER: FIG.1 SCALE : 1:0 FORMAT: PAPER COPY ARCHIV: HARDY/AVATI,INAC DIG NO:	F1G.5 1:50000 PAPER COPY HARDY/AVATI, INAC
SOURCE NUMBER(S): 87-P-12,87-P-2	22,87-P-23
SURVEY LINES / LOCATION DETAILS	
DESCRIPTION OF STUDY AND SURVEY TYPE : GEOTECHNICAL, ENVIRONMENT SCOPE: 3 SITES LEVEL: PRELIMINARY ASSESSMENT	DBTAILS: AL, SOCIO-ECONOMIC
SIZE : 3 SITES SURVEY PATTERN: N/A SURVEY SPACING: N/A SEASON: N/A	PROGRAM LENGTH: N/A
EQUIPMENT : N/A	
PENETRATION: N/A	
RESOLUTION : N/A	
<u>INFORNATION ON SAMPLES OR SURVE</u> RATE : N/A QUALITY: N/A TYPE : N/A SIZE : N/A	<u>XY RECORDS:</u>
LEVEL OF DETAIL: INTERPRETATION INTERP : STRATEGY TO RESERVE AN REPORT : FORMAL REPORT DISTRIB: HARDY/AVATI,INAC OTHER :	N <u>/ANALYSIS/REPORTING:</u> ND DEVELOP GRANULAR RESOURCES, ENVIRONMENTAL IMPACT, SOCIAL IMPACT
ARCHIVING OF INFORMATION: REPORT : HARDY/AVATI,INAC DATA : HARDY/AVATI,INAC	
DATA COMPILATION AND UPDATING: COMPILED BY: EBA ENGINEERING C DATE : 91/03/31 COMPIL UPDATED BY : DATE :	ONSULTANTS LTD. LATION PROJECT ND.: 0701-10526 UPDATE PROJECT NO.:

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PAULATUK COMMUNITY GRANULAR RESOURCES INVENTORY Indian and Northern Appairs Canada Catalogue of Granular Resource-Related Information
<u>Study Number:</u> Inac89nc Month: 3 YEAR: 1989
<u>SPONSOR :</u> INDIAN AND NORTHERN AFFAIRS CANADA JUB NU : CONTACT: <u>Contractor :</u> Hardy BBT LTD. JUB NU : DG10346 CONTACT: ALAN HANNA <u>REPORT TITLE:</u> PROPOSED GEOTECHNICAL INVESTIGATION PLAN: POTENTIAL SAND AND GRAVEL RESERVES INUVI
COORDINATES MINIMUM CENTRE MAXIMUM UTM: ZONE: 10 10 10 EASTING: 455750 488000 488000 NDRTHING: 7689000 7694000 00: OR: LATITUDE: LONGITUDE: 10 10
LOCATION: NAME : PAULATUK PAULATUK SITE PLAN
NUMBER: FIG.1 FIG.3,FIG.5(APP.B) SCALE : 1: 1:50000,50000 FORMAT: PAPER COPY BLUELINE, PAPER COPY ARCHIV: HARDY,INAC HARDY,INAC DIG NO:
SDURCE NUMBER(S): 87-P-12,87-P-23
SURVEY LINES / LOCATION DETAILS:
<u>DESCRIPTION OF STUDY AND SURVEY DETAILS:</u> TYPE : GEOTECHNICAL SCOPE: 2 SITES, 9 PROPOSED BOREHOLES IN SOURCE 23 LEVEL: PLAN FOR BOREHOLE LAYOUT IN FUTURE SITE INVESTIGATIONS
SIZE : 2 SITES, SURVEY PATTERN: IRREGULAR SURVEY SPACING: IRREGULAR SEASON: N/A PROGRAM LENGTH: N/A
EQUIPMENT : N/A
PENETRATION: N/A
RESOLUTION : N/A INFORMATION ON SAMPLES OR SURVEY RECORDS: RATE : N/A QUALITY: N/A TYPE : N/A SIZE : N/A
LEVEL OP DETAIL: INTERPRETATION/ANALYSIS/REPORTING: INTERP : PLANNING REPORT : FORMAL REPORT DISTRIB: HARDY,INAC OTHER :
ARCHIVING OF INFORMATION: REPORT : HARDY, INAC DATA : N/A
DATA COMPILATION AND UPDATING:

COMPILED BY: EBA ENGINEERING CONSULTANTS LTD. DATE : 91/03/31 COMPILATION PROJECT ND.: 0701-10526 UPDATED BY : DATE : UPDATE PROJECT ND.:

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PAULATUK COMMUNITY GRANULAR RESOURCES INVENTORY Indian and Northern Appairs Canada Catalogue of Granular Resource-Related Information
STUDY NUKBER: GNWT90PL MONTH: 9 YEAR: 1990
SPONSOR : GOVT OF NWT - PUBLIC WORKS JUB NO : CONTACT: ROB NELSON CONTRACTOR : GOVT OF NWT - DOT JOB NO : 90-9506/30 CONTACT: REPORT TITLE: PAULATUK GRANULAR INVESTIGATION OF SOURCES 22,23, AND 12, 1990
COORDINATES MINIMUM CENTRE MAXIMUM UTM: ZUNE: 10 10 EASTING: 455750 0 460000 NORTHING: 7689000 7693500 OR: LATITUDE: 0.00000 LONGITUDE: 0.00000
LOCATION: SITE PLAN NAME : PAULATUK PAULATUK
NUMBER: SDURCE 22, SDURCE 23 SCALE : 1: 1:10000,10000 FORMAT: AIRPHOTO MOSAIC - BLUELINE ARCHIV: GNWT DIG NO:
SOURCE NUMBER(S): 87-P-22,87-P-23
SURVEY LINES / LOCATION DETAILS:
DESCRIPTION OF STUDY AND SURVEY DETAILS: TYPE : GEOTECHNICAL - GRANULAR RESOURCES SCOPE: 2 SITES LEVEL: PRELIMINARY EXPLORATION
SIZE : 50 BH, 15 TP SURVEY PATTERN: IRREGULAR SURVEY SPACING: IRREGULAR SEASON: SUMMER PROGRAM LENGTH: AUGUST + SEPTEMBER,1990
EQUIPMENT : HAND AUGER, HAND EXCAVATING EQUIPMENT, MACHINE EXCAVATING EQUIPMENT (MODEL UNKNOWN
PENETRATION: 0.6-0.9-1.2
RESOLUTION : POOR TO FAIR
<u>INPORNATION ON SAMPLES OR SURVEY RECORDS:</u> Rate : Unknown Quality: Fair Type : Disturbed Size : N/A
LEVEL OF DETAIL: INTERPRETATION/AWALYSIS/REPORTING: INTERP : SOIL STRATIGRAPHY, GRADATION, MOISTURE/DENSITY RELATIONSHIP REPORT : COVERING LETTER, FIGURES WITH LOCATIONS, BOREHOLE AND TESTPIT LOGS DISTRIB: GNWT OTHER :
ARCHIVING OF INFORMATION: Report : GNWT Data : GNWT
DATA COMPILATION AND UPDATING: COMPILED BY: EBA ENGINEERING CONSULTANTS LTD. DATE : 91/03/31 COMPILATION PROJECT NO.: 0701-10526 UPDATED BY : UPDATE : UPDATE PROJECT NO.:

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PAULATUK COMMUNITY GRANULAR RESOURCES INVENTORY Indian and Northern Appairs Canada Catalogue of Granular Resource-related information
STUDY NUNBER: GNWT91PL MONTH: 3 YEAR: 1991
SPONSOR : GUYT OF NNT, INAC JOB NO : SC291400 CONTACT: B PETERSON,R GOWAN <u>CONTRACTOR</u> : EBA ENGINEERING CONSULTANTS LTD. JOB NO : 0701-10526 CONTACT: ED HOEVE <u>REPORT TITLE:</u> PAULATUK GRANULAR RESOURCES INVENTORY AND RECOMMENDATIONS FOR DEVELOPMENT (A PART
COORDINATES: MINIMUM CENTRE MAXIMUM UTM: ZONE: 10 10 EASTING: 455750 488000 NORTHING: 7689000 7696000 OR: LATITUDE: LONGITUDE:
LOCATION: NAME : PAULATUK PAULATUK SITE PLAN
NUMBER: FIG.1 FIG.2,FIG.3 SCALE : 1:50000 1:10000,10000 FORMAT: PAPER COPY AIRPHOTO MOSAIC - BLUELINE ARCHIV: EBA,GNWT-DOT,INAC EBA,GNWT-DOT,INAC DIG NO:
SOURCE NUMBER(S): 87-P-12,87-P-22,87-P-23,91-P-24
SURVEY LINES / LOCATION DETAILS:
DESCRIPTION OF STUDY AND SURVEY DETAILS: TYPE : GEOTECHNICAL - GRANULAR RESOURCES SCOPE: 4 SITES LEVEL: PRELIMINARY EXPLORATION
SIZE: 10 TP (1 AT S.23, 9 AT S.12) SURVEY PATTERN: IRREGULAR SURVEY SPACING: IRREGULAR SEASON: WINTER PROGRAM LENGTH: 3 DAYS
EQUIPMENT : D-B CAT
PENETRATION: 0.3-1.3-2.4m S.12, 1.7m S.23
RESOLUTION : GOOD
INFORMATION ON SAMPLES OR SURVEY RECORDS: RATE : 1 APPROX QUALITY: GOOD TYPE : DISTURBED SIZE : 17
LEVEL OF DETAIL: INTERPRETATION/ANALYSIS/REPORTING: INTERP : SOIL STRATIGRAPHY, MATERIAL CLASS AND VOLUMES, DEMAND, PIT DEVELOPMENT RECOMMENDATIONS REPORT : FORMAL GEOTECHNICAL DISTRIB: EBA,GNWT-DOT,INAC OTHER :
ARCHIVING OP INFORMATION: REPORT : EBA,GNWT-DOT,INAC DATA : EBA,GNWT-DOT,INAC
DATA COMPILATION AND UPDATING: COMPILED BY: EBA ENGINEERING CONSULTANTS LTD. DATE : 91/03/31 COMPILATION PROJECT NO.: 0701-10526 UPDATED BY : DATE : UPDATE PROJECT NO.:


APPENDIX D

SOURCE DATABASE DICTIONARY AND ENTRIES



GRANULAR RESOURCES DATABASE

DATA DICTIONARY - SOURCE CATALOGUE

PART A: DEPOSIT LOCATION AND STATUS

AA - SOURCE NUMBER:

Each source has been assigned a unique identifier number, normally the number of the source in the original study which located the source, which will serve as a link to other databases (e.g. borehole database). This number consists of an alphanumeric sequence of up to eight digits. (e.g. 87-P-12).

AB - STUDY NUMBER:

A unique number which identifies the study in which the source was first described in detail and provides a link to INAC's granular resource study catalogue database. This number consists of an alphabet prefix representing the sponsor of the report (4 characters), the year of the study (2 digits, and the geographic location or areas (up to 4 characters). (e.g. INAC87PL).

AC - NTS MAP REFERENCE:

The National Topographic Series (NTS) 1:50,000 scale map reference number of the map containing the majority of the outlined deposit. (e.g. 107A/15).

AD - MAP DIGITIZER NUMBER:

A unique five digit identifier number, to be assigned by INAC, which identifies a data set of points, lines, or polygons to be digitized from the location plan. This number links the granular deposit database to INAC's spatial database system.

AE - LOCATION MAP/PLAN SCALE:

The scale, expressed in terms of the representative fraction (e.g. 1:250,000) of any small scale accompanying regional map which indicates the location of separate study/borrow sites. The denominator only of the representative fraction is given since by definition of the numerator is unity. (e.g. 250000).

The next eight fields (AF-AL) provide location details for the Source, including Universal Transverse Mercator (UTM) co-ordinates, and highway kilometre posts. In each case, the co-ordinates are normally determined for the approximate centre of the source, unless otherwise stated.

AF - MINIMUM ZONE (UTM):

Minimum number of the zone(s) in which the source occurs. Serves as a link to other databases.



Minimum easting of the source (westernmost edge of source). Serves as a link to other databases.

AG - LOCATION:

The descriptive location of the source relative to a geographic feature. (e.g. 500 m north of Rat Lake).

AH - MINIMUM NORTHING (UTM):

Minimum northing of the source (southernmost edge of source). Serves as a link to other databases.

AI - LOCAL NAME(S):

Many sources are known locally by one or more names, rather than the designated source number. Although these names may vary over time or be duplicated between sources, they should be recorded as is. (e.g. Callison Pit).

AJ - CORRIDOR NUMBER AND NAME:

The number (i.e. Territorial Highway number, where appropriate) and the name of the transportation route within whose corridor the deposit occurs. (e.g. 05-Robert Campbell Highway; 00-Foothills Pipeline - Dempster Lateral).

AK - KILOMETRE-POST:

The kilometre-post (KP) of the point along the transportation corridor at which access is relatively direct to the deposit, or the most nearly adjacent point on the corridor to the location of the deposit.

AL - OFFSET: DISTANCE AND DIRECTION:

The distance in metres from the corridor centreline to the centre of the deposit and the direction, determined facing towards the increasing kilometre-post, to the deposit from the corridor. (e.g. 35L(eft); 1500-R(ight)).

AM - SOURCE ACCESS:

A short description of the most practical route leading from the corridor to the deposit. Where the access route does not lead directly from the corridor to the source, the KP of the corridor at the location of the access route should be given (e.g. series of seismic cutlines; along north bank of river; follows ridge crest from KP 265.7; shorter but steeper alternative at KP 576).



AN - DISTANCE:

The distance along the above described access route from the corridor to the deposit. Ideally, this should be the same as the offset distance; however, where this is not possible due to steep slopes or rivers, the access distance can vary significantly from offset. (e.g. 40; 1250).

AO - CONDITION:

A description of the type and condition of the access route, (e.g. seismic line; undeveloped: winter road; ice road).

AP - AREA:

The total areal extent, in hectares, of potentially usable granular resources which comprise the deposit. (e.g. 1; 10; 100).

AQ - SITE PLAN SCALE:

The scale, expressed in terms of the representative fraction (e.g. 1:10,000) of any larger scale accompanying site plan which indicates the location of boreholes/testpits/grab samples or geophysical survey grids. The denominator only of the representative fraction is given since the numerator is consistently "1" (e.g. 10000).

AR - PLAN DIGITIZER NUMBER(S):

A unique five digit identifier number or series of numbers, to be assigned later by INAC, which identifies a data set of points, lines, or polygons to be digitized from the site plan. This number links the granular deposit database to INAC's spatial database system.

AS - LAND TENURE:

The legal status of the land upon which the deposit is located. (e.g. Inuvialuit 7(1)a; private; Territorial).

AT - STATUS:

The current status of the deposit in terms of development of granular resources. (e.g. active; inactive; abandoned; depleted; undeveloped; stripped; unproven).

AU - PAST USE:

A summary of any known previous source development or exploitation activity in terms of type and amount of material removed and use of material. (e.g. 12,000 cu.m of silty sand removed by TYG in 1979 for gravel surfacing).



AV - STOCKPILE TYPE:

A qualitative description of the processed materials on site. (e.g. 38 mm screened gravel).

AW - PERFORMANCE RATING:

A summary of any known assessment of the performance of previously used material from the source. (e.g. poor binding, segregates with minimal traffic).

AX - QUANTITY

An estimate of quantity stockpiled a site, at the time of the last record update.

PART B: SOURCE INVESTIGATION AND DESCRIPTIVE INFORMATION

BB - INVESTIGATION LEVEL:

The greatest level of detail of previous site investigation work at the subject deposit (e.g. airphoto interpretation; reconnaissance; exploratory drilling; delineation drilling; production drilling).

BC - LAST INVESTIGATION DATE:

The year in which the most recent site investigation work was completed.

BD - GEOPHYSICAL DATA:

The type and length of any geophysical surveys completed at the deposit. TYPE: LINE M: (e.g. EM-31 : 1550 m).

BE - TEST HOLE DENSITY

The number of boreholes plus the number of test pits divided by the estimated source area. (Field AP).

SUBSURFACE DATA:

The number, range and average depth of subsurface penetration of the various site investigation methods used to define the source materials.

BF - BOREHOLES: NUMBER:

The total number of boreholes (augerings, borings, boreholes, etc.) completed and logged within, or immediately adjacent to the deposit, which provide subsurface information defining the type, extent and quality of granular materials.



BG - TESTPITS: NUMBER:

The total number of hand- or equipment-excavated testpits or trenches completed and logged within, or immediately adjacent to the deposit, which provide subsurface information defining the type, extent and quality of granular materials.

BH - EXPOSURES: NUMBER:

The total number of natural or man-made exposures or outcrops (e.g. on steep slopes, stream banks; or exposed pit faces, cutbanks), within, or immediately adjacent to the deposit, which have been logged to provide subsurface information defining the type, extent and quality of granular materials.

BI - BOREHOLES: DEPTH:

A listing of the minimum, average and maximum depth of penetration of the total collection of boreholes for the deposit, in tenths of metres. (e.g. 3.1-5.6-10.3).

BJ - TESTPITS: DEPTH:

A listing of the minimum, average and maximum depth of penetration of the total collection of testpits for the deposit, in tenths of metres. (e.g. 0.5-2.6-5.3).

BK - EXPOSURES: DEPTH:

A listing of the minimum, average and maximum depth of subsurface materials exposed in the total collection of exposures for the deposit, in tenths of metres. (e.g. 01.5-06.1-15.0).

BL - DATA QUALITY:

A subjective description of the usefulness of the data with respect to the preparation of the source database.

SOURCE DESCRIPTION:

A brief summary of the physical setting of the deposit which will aid in the analysis and understanding of the type, extent, quality and uniformity of the available granular materials and the suitability of the deposit for development and exploitation.

BM - TOPOGRAPHY:

A general description of the collective physical features, relief and contour of the area. (e.g. flat, gently rolling, rolling, hummocky, undulating, ridged, dissected, plateau, mountainous).



BN - SLOPE:

A general description of the collective physical features, relief and contour of the area. (e.g. simple; compound; complex), degree (e.g. flat; gentle; moderate; steep; precipitous) and direction (e.g. NNW).

BO - AREA DRAINAGE:

A general description of the general direction and apparent condition (e.g. well; moderate; poor; saturated; flooded) of surface and subsurface drainage at the site. (e.g. SSE- moderate, flooded to S).

BP - VEGETATION:

A general description of the most significant features of the vegetation cover on and immediately adjacent to the deposit which may provide an indication of the type of materials within the deposit, the presence or absence of permafrost or wet conditions, or potential site development or restoration difficulties. Vegetation should be described, as appropriate, in terms of age, size or complexity (e.g. mixed; sapling; mature), density (e.g. nil; sparse; moderate; dense) and type (e.g. poplar; black/white spruce; jackpine; willow) for each of tree cover, understorey and ground cover. (e.g. mature mixed poplar and white spruce to 15 m, few tamarack / sparse poplar saplings / dense bearberry, sparse sphagnum and sedges).

BQ - PERMAFROST FEATURES:

A general description of surface and/or subsurface features which demonstrate or indicate the presence of permafrost conditions within or adjacent to the deposit. (e.g. low-centre polygons and thermokarst to W; sparse stunted black spruce and thick sphagnum; trace Vx in 2 BHs).

BR - ACTIVE LAYER THICKNESS:

A listing of the minimum, average and maximum measured thickness of the seasonally thawed and frozen active layer within and adjacent to the deposit, determined from the boreholes, testpits, probings and exposures which encountered apparently perennially frozen materials, in tenths of metres. (e.g. 0.2-1.0-1.8).

BS - SITE DESCRIPTION DATE:

The date on which the site description was completed, or where more than one site visit was involved, the date upon which the maximum active layer thickness was measured, in the format; yy/mm/dd/ (e.g. 79/09/13).

BT - GENERIC ORIGIN:

The environment of deposition or geologic process believed to be responsible for the formation of the subject surficial feature or deposit comprised of granular materials. (e.g. alluvial; fluvial; glacial; glaciofluvial; glaciomarine; lacustrine).



The type of surficial feature comprising the subject granular materials, with which geologic conditions are interpreted to be relatively uniform or are variable within the limits characteristic of the type of feature. (e.g. delta; esker; fan; kame; outwash plain; terrace).

SOURCE STRATIGRAPHY:

A general description of the type, range and average thickness of the main surficial materials units comprising the granular source, based on subsurface information from only those boreholes, testpits and exposures which encountered granular materials.

BV - GRANULAR TYPE:

A brief description of the type of granular materials encountered within the area delineated as a granular source. (e.g. GRAVEL AND SAND, wellgraded; SAND - gravelly, some silt).

BW - OVERBURDEN TYPE:

A brief description of the type of overburden materials present over the area containing granular materials. (e.g. PEAT - over silt).

BX - GRANULAR THICKNESS:

A listing of the minimum, average and maximum thickness of granular materials over the deposit, determined from the boreholes, testpits and exposures in the area delineated as a granular source, in tenths of metres. (e.g. 1.0-5.2-12.8).

BY - OVERBURDEN THICKNESS:

A listing of the minimum, average and maximum thickness of overburden materials over the deposit, determined from the boreholes, testpits and exposures which encountered granular materials, in tenths of metres. (e.g. 0.0-1.2-2.8).

BZ - UNDERBURDEN:

A brief description of the type of materials underlying the granular materials in the source area. (e.g. CLAY (Till) - wet).

B1 - DEVELOPMENT CONSTRAINTS:

A general indication of any potential constraints to short or long term development of the source, expressed in terms of the type of constraint, (e.g. access; materials; drainage; permafrost; environmental; socioeconomic) with details, as appropriate, on the nature and impact of the constraint.



B2 - DEVELOPMENT POTENTIAL:

A summary comment, expressed in qualitative terms, of the general suitability of the deposit for development. The potential is based essentially on the anticipated overall extent and quality of the available granular materials, but also considers the level of detail of existing site investigation, the presence, extent and type of overburden, drainage and permafrost conditions, other surface or subsurface characteristics and general accessibility. (e.g. unknown; unsuitable; poor; fair; good; excellent).

PART C: TEST RESULTS AND MATERIALS QUANTITY

TEST RESULTS:

A summary of the cumulative results of laboratory testing, completed in accordance with ASTM or CSA standard test procedures, of samples from the deposit in terms of test name, number of samples tested, and ranges and average of test results.

CC - UNIFIED SOIL CLASSIFICATION - NUMBER:

The number of samples classified under the Unified Soil Classification (USC) system, in accordance with ASTM standard D 2487. (e.g. 121).

CD - MOISTURE CONTENT (%) - NUMBER:

The number of samples for which soil Moisture Content (MC%) has been determined, in accordance with ASTM standard D2216. (e.g. 102).

CE - UNIFIED SOIL CLASSIFICATION - CLASS:

The range and most common material types sampled from the deposit as classified by the Unified Soil Classification (USC) system and presented in the order: poorest/most/best. (e.g. SM-SP/SP-GP/GW-..)

CF - MOISTURE (MC%): RESULTS:

The range and average soil Moisture Content (MC%), based on percentage of dry soil weight, for the collection of samples tested, presented in the format: minimum-average-maximum MC%. (e.g. 03-12-021).

CG - SIZE ANALYSIS: NUMBER:

The number of samples for which particle-size analysis testing has been completed, in accordance with ASTM standards D 421 and D 422. (e.g. 111).

CH - GRAVEL(%):

The minimum, average and maximum percentage of gravel-sized material; that is, material in the Size Fraction 4.76 mm - 75 mm diam., as determined by particle-size analysis testing. (e.g. 05-45-85).



CI - SAND (Sand %):

The minimum, average and maximum percentage of sand-sized material; that is material in the Size Fraction 0.074 mm - 4.76 mm diam., as determined by particle-size analysis testing. (e.g. 25-37-52).

CJ - FINES (Fine%):

The range and average percentage of silt- and clay-sized (Fine%) material under 0.074 mm diam., as determined by particle-size analysis testing. (e.g. 02-07-12).

CK - OVERSIZE (0/S):

The minimum, average and maximum percentage of oversized (0/S) material; that is, cobble- and boulder-size material (Size Fraction over 75 mm diam.), in pit run material from the source, as determined by field estimates, field sieving, or laboratory testing. (e.g. 00-10-35).

CL - D-50:

The range and average Median Diameter (D-50), in microns, of samples subjected to particle-size analysis testing. (e.g. 00210-01200-03600).

CM - PETROGRAPHIC NUMBER - NUMBER:

The number of samples for which Petrographic Analysis testing has been completed to determine the Petrographic Number (PN) of samples from the deposit, in accordance with CSA standard A23.2, Appendix B. (e.g. 01, 10).

CN - PETROGRAPHIC NUMBER - RESULTS:

The range and average Petrographic Number (PN) for the deposit, based on petrographic analysis, for the above collection of samples, presented in the format: minimum-average-maximum. (e.g. 102-114-123).

CO - OTHER TESTS:

A listing of up to eight other types of tests conducted on samples from the deposit, the number of samples tested, and the average values of the test results, presented in the format: test (11 digits) - number (2 digits) - average results (4 digits). Typical entries are described in more detail below: (e.g. Organ Plte-02-03.5; Durab Index-01-0063; React Pr 3M-01-0.08%; LA Abrasion-05-23.2; Sulph Sd Mg-03-05.8; Rel Density-03-2.64; Absorption %-06-1.11; Other Tests-11-vary).

ABSORPTION(%):

The number and average of all results, expressed in terms of weight percentage, of all Absorption testing on samples from the deposit, in accordance with CSA standard A23.2-12A. (e.g. Absorption(%)-12-01.1).



CLEANNESS(C/F):

The number and average of all results of Cleanness of Aggregate testing on samples of coarse or fine aggregate from the deposit, in accordance with California Test Method 224. (e.g. Cleanness(C)-04-50.5).

DURAB INDEX:

The number and average of all results of durability index testing on samples from the deposit. (e.g. Durab_Index-03-65.3).

LA ABRASION:

The number and average of all results, expressed in percentage weight loss, of Los Angeles (LA) Abrasion Testing on samples from the deposit, in accordance with CSA A23.2-16A. (e.g. LA Abrasion 03-26.3).

ORGAN PLATE:

The number and average of all results, expressed in terms of reference plate number, of Organic Plate testing on samples from the deposit. (e.g. Organ Plate-05-03.2).

ORG CONTENT:

The number and average of all results, expressed in terms of percentage weight loss, of Organic Content testing, in accordance with the Alaskan test method. (e.g. Org Content-12-00.5).

SULPH SD MG/NA:

The number and average of all results, expressed in percentage weight loss, of all Sulphate Soundness (Magnesium or Sodium, Mg/Na) testing on samples from the deposit, in accordance with CSA standard A23.2-9A. (e.g. Sulph Sd Na-02-03.2).

REACT PR/MB 3M/6M/12/18:

The number and average of all results, expressed in terms of percentage expansion, of alkali-aggregate reactivity testing on concrete prisms, or mortar bars, after three, six, twelve or eighteen months, in accordance with CSA A23.2-14A-M77 or ASTM C-227, respectively. (e.g. React_Mb-3M-02-.085).

REL_DENSITY:

The number and average of all results, expressed in terms of saturated surface dry conditions, of all Relative Density testing on samples from the deposit, in accordance with CSA standard A23.2-12A. (e.g. Rel Density-12-2.62).



MATERIAL QUANTITY (All in cubic metres):

Calculated and/or estimated volumes of granular material contained in the deposit, expressed in terms of DIAND-designated material classes, and in terms of confidence level of the quantities determined in accordance with the following definitions:

CLASS:

DIAND has developed a simple classification system for granular resources, presented in the draft Territorial and Public Lands Pits and Quarries Regulations, which considers both the Unified Soil Classification of materials, and their most suitable end use. The quantity estimates should be given, where possible, in terms of each of the five material classes, as defined in each class field (see CP to CT, below), and in terms of the total (see CU) for the deposit.

PROVEN VOLUME:

Material in each class whose occurrence, distribution, thickness and quality is supported with a high degree of confidence by ground truth such as geotechnical drilling, test pitting, and/or exposed stratigraphic sections. The thickness of material encountered in a borehole is usually extrapolated to a radius not exceeding 50 metres around the hole, with adjustments applied by assessing landform type and anticipated or known deposit homogeneity.

PROBABLE VOLUME:

Material in each class whose existence and extent is inferred on the basis of several types of direct and indirect evidence, including topography, landform characteristics, airphoto interpretation, extrapolation of stratigraphy, geophysical data and/or limited sampling. Additional investigation is needed to determine a reliable material volume. The volume is estimated by projecting known parameters (typically those of proven resources) over the entire deposit, with adjustments for landform type, anticipated homogeneity and other site characteristics such as ice content and drainage.

PROSPECTIVE VOLUME:

Material in each class whose existence is merely speculated on the basis of limited indirect evidence, such as airphoto interpretation and/or general geological considerations. The volume is typically estimated for the maximum areal extent of the deposit and the estimated relief of the geomorphic feature, with adjustments for anticipated site and deposit characteristics.

All material quantities are presented in the following format: CLASS: PROVEN/PROBABLE/PROSPECTIVE VOLUMES:



CP - CLASS 1:

The calculated and/or estimated volumes of excellent quality granular material, consisting of clean, well-graded, structurally sound sands and gravels suitable for use as high quality surfacing materials, or as high quality asphalt or concrete aggregate, with a minimum of processing.

CQ - CLASS 2:

The calculated and/or estimated volumes of good quality granular material, consisting of well-graded sands and gravels with varying, limited quantities of silt (fines), and suitable for use as good quality base and surface course aggregates, embankment or structure-supporting fill. May be suitable for production of concrete aggregate with extensive processing, except where deleterious material is present.

CR - CLASS 3:

The calculated and/or estimated volumes of fair quality granular material, consisting of generally poorly-graded sands and gravels with or without substantial quantities of silt (fines), and suitable for fair quality general fill (subbase, base, embankment fill) for roads, flexible foundation pads, or lay-down yards.

CS - CLASS 4:

The calculated and/or estimated volumes of poor quality granular material, consisting of generally poorly-graded, silty fine sands with minor gravels, with or without weak particles and deleterious materials, and suitable for marginal general (non-structural) fill.

CT - CLASS 5:

The calculated and/or estimated volumes of fair to excellent quality bedrock, felsenmeer, talus or similar extremely coarse granular material, suitable for quarrying and processing to produce potentially excellent construction materials ranging from general fill, to concrete aggregate, building stone, and erosion control materials such as riprap or armour stone.

CU - TOTAL VOLUME:

The calculated and/or estimated volume of all of the above classes of granular materials potentially available in the deposit.

CV - TOTAL RECOVERABLE:

The calculated or estimated volume of useable granular material form the deposit, based on the maximum areal extent of useable material in the deposit, and the anticipated maximum recoverable thickness, as determined from test pit and borehole information or inferred from assessment of deposit and site characteristics.



CW - ANNUAL RECOVERABLE:

The calculated or estimated volume of material which is likely to be recovered in a single extraction season, based on the maximum areal extent of usable material in the deposit, and the anticipated maximum thickness of annual thawing of surficial materials, as determined from test pit and borehole information or inferred from assessment of deposit and site characteristics.

CX - RECORD UPDATED BY:

The name of the contractor or person who originally compiled the database and a listing of contractors or persons who have subsequently undertaken significant updating of the content of the database (e.g. A. Compiler/Granular Resource Consultants Ltd./J. Doe).

CY - LAST UPDATE:

The date of the last update of the information presented for the subject granular materials deposit, presented in the format: mm/dd/yy (e.g. 12/13/87).



PAULATUK Granular resources database Source database data shbet
SOURCE NUNBER : 87-P-12 STUDY NO. : GNWT91PL,INACS REFERENCE : NTS MAP REFERENCE : 97D5 DIGITIZ NO: MAP SCALE : 1: 50000 UTM ZONE & EASTING : 10 465000 LOCATION : 10KM ESE OF PAULATUK NORTHING : 7689000 LOCAL NAME(S) : RAT LAKE CORRIDOR NO./NAME : KILOMETRE POST : OFFSET(m) : CROSS REFERENCES :
SOURCE ACCESS : WINTER/ICE ROAD FROM PAULATUK ACCESS DISTANCE (m): B000 CONDITION : WINTER ROAD AREA (ha) : 150 SITE SCALE: 1:10000 DIGITIZ NO:
LAND TENURE : INUVIALUIT 7(1)(A) - PAULATUK STATUS : SE CORNER ACTIV PAST USE - SOURCE : NONE PRIOR TO 1991 STOCKPILE - TYPE : UNKNOWN PERFORMANCE RATING : N/A - QUANTITY : UNKNOWN - SOURCE NUMBER : N/A - DEPTH (m): A.3 - 2.4 - DEPTH (m): N/A DATA QUALITY : GODD SOURCE TOPOGRAPHY : RAISED TERACE SLOPE: GENTLE SW; SCARP SW AND S AREA DRAINAGE : MODERATE; SW SOURCE VEGETATION : SPARSE GRASSES PERMAFROST FEATURES: N 1 TO NON TO NOB ACTIVE LAYER (m): 0.5 MINIMUM DESCRIPTION DATE : 03/24/91 GENERIC ORIGIN : GLACIDFLUVIAL LANDFORM(S) : FLUVIAL TERRACE GRANULAR - TYPE : GRAVEL-SAND, SAND-SILTY OVERBURDEN-TYPE : SAND-SILTY - THICKNESS (m): 1.2-1.7-2.40 - THICKNESS (m): 0.3-0.5-0.7 UNDERBURDEN : N/A DEVELOP. CONSTRAINT: ACCESS, ORAINAGE, POSSIBLE MASSIVE ICE, CARIBOU DEVELOP. CONSTRAINT: ACCESS, ORAINAGE, POSSIBLE MASSIVE ICE, CARIBOU DEVELOP. POTENTIAL : GODD
USC - NUMBER : 17 CLASS : 6P,SM, (GW) SIZE ANALYSIS-NO. : GRAVEL (%) : 53-62-73 SAND (%): 18-33-44 FINES (%): 02-04-08 - OVERSIZE (%) : D-50 (UD) : 07000-09400-13000 PETROGRAPHIC ANALYSIS-NO. OF TESTS: 1 RESULTS: 134
OTHER TESTS (see the DATA DICTIONARY) : ORG CONTENT
MATERIAL QUANTITY (All in cubic metres) CLASS 1: 14140-73940-279480 CLASS 2: 14140-73940-279480 TOTAL RECOVERABLE : 6124600 CLASS 3: 54350-466060-3294960 ANNUAL RECOVERABLE : 800000 CLASS 4: 22150-340750-2550450 TOTAL VOLUME : 6124600 CLASS 5: 0
RECORD UPDATED BY : EBA87,ILA88,EBA91 LAST UPDATE : 03/31/91
EBA PROJECT NUMBER : 0701-10526



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PAULATUK GRANULAR RESOURCES DATABASE SOURCE DATABASE DATA SHEET SOURCE NUNBER : 87-P-22 STUDY NO. : GNWT91PL, GNWT9 REFERENCE : NTS MAP REFERENCE : 97CB DIGITIZ ND: MAP SCALE : 1: 50000 UTN ZONE & EASTING : 10 455900 LOCATION : 1KM WSW : 1KM WSW OF PAULATUK NORTHING : 7692000 LOCAL NAME(S) : N/A CORRIDOR NO. /NAME : KILOMETRE POST OFFSET(a) : : CROSS REFERENCES . SDURCE ACCESS : ALL SEASON ROAD FROM PAULATUK TO NEW WATER LAKE ACCESS DISTANCE (m): 1000 CONDITION : ALL SEASON ROAD AREA (ha) : 47 SITE SCALE: 1:10000 DIGITIZ NO: LAND TENURE : INUVIALUIT 7(1)(A) - PAULATUK PAST USE - SOURCE : DEVELOPMENT COMMENCED STATUS : INACTIVE STOCKPILE - TYPE : UNKNOWN PERFORMANCE RATING : N/A - QUANTITY : UNKNOWN INVESTIGATION LEVEL: EXPLORATORY TESTPITS LAST INVEST DATE : 1990 GEOPHYSICAL DATA : N/A TEST HOLE DENSITY (#/ha): 0.32 TEST PITS - NO. : 15 EXPOSU - DEPTH (a): 0.7-1.0-1.1 BOREHOLES - NUMBER : EXPOSURES - NO. 3 : 0 - DEPTH (m) : 0.9 DATA QUALITY : FAIR - DEPTH (m) : N/A SOURCE TOPOGRAPHY : COASTAL PLAIN SLOPE: ROLL AREA DRAINAGE : MODERATE TO POOR, INTO LAKES, OCEAN SOURCE VEGETATION : SPARSE GRASSES SLOPE: ROLLING PERMAFROST FEATURES: UNKNOWN ACTIVE LAYER (.) : DESCRIPTION DATE : 09/30/90 0.5 MINIMUM GENERIC ORIGIN LANDFORM(S) : BEACH OVERBURDEN-TYPE : GRAVEL-trace organics : GLACIOFLUVIAL DELTA GRANULAR - TYPE : SAND, SAND AND SILT, SILT - THICKNESS (m) : 0.7-1.0-1.10 - THICKNESS (m) : 0.05 : N/A UNDERBURDEN DEVELOP. CONSTRAINT: ACCESS, DRAINAGE, POSSIBLE MASSIVE ICE, EROSION DEVELOP. POTENTIAL : POOR TO FAIR USC NUMBER : MOISTURE CONTENT-NUMBER : 0 -15 CLASS : SP, SM, ML -RESULTS: SIZE ANALYSIS-NO. : SAND (%): 30-74-99 FINES (%): 01-29-80 GRAVEL (%) : 5-18 - OVERSIZE (%) : D-50 (um) : 00080-00393-00800 PETROGRAPHIC ANALYSIS-NO. OF TESTS: 0 RESULTS: N/A OTHER TESTS (see the DATA DICTIONARY) : STANDARD PROCTOR CLASS 1: 0 CLASS 2: 0 CLASS 3: 4 MATERIAL QUANTITY (All in cubic metres) 4300-4300-8200 TOTAL RECOVERABLE : 915500 97400-443500-907300 ANNUAL RECOVERABLE : 457700 CLASS 4: TOTAL VOLUME CLASS 5: 0 : 915500 ----RECORD UPDATED BY : EBA87.EBA91 LAST UPDATE : 03/31/91 EBA PROJECT NUMBER : 0701-10526 1



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PAULATUK GRANULAR RESOURCES DATABASE SOURCE DATABASE DATA SHEET SOURCE NUMBER : 87-P-2 NTS MAP REFERENCE : 97CB 87-P-23 STUDY NO. : GNWT91PL, INACB REFERENCE : 97CB DIGITIZ NU: MAP SCALE : MAP SCALE : 1: 50000 UTH ZONE & EASTING : 10 455750 NORTHING : 7690000 LUCATION : 1.5-3.0KM S OF PAULATUK LOCAL NAME(S) N/A : CORRIDOR NO./NAME : KILOMETRE POST OFFSET(m) : 1 CROSS REFERENCES : : ALL SEASON ROAD TO EXISTING PIT, WINTER ROAD TO POTENTIAL): 2000 CONDITION : WINTER/ALL SEASON SOURCE ACCESS ACCESS DISTANCE (m): 2000 AREA (ha) : 394 SITE SCALE: 1:10000 DIGITIZ ND: INUVIALUIT 7(1)(A) - PAULATUK : NE ACTIVE-NEAR LAND TENURE STATUS 1 PAST USE - SOURCE : HAMLET USES STOCKPILE - TYPE : UNKNOWN : 1990 INVESTIGATION LEVEL: EXPLORATORY DRILLING LAST INVEST DATE GEOPHYSICAL DATA : BOREHOLES - NUMBER : TEST HOLE DENSITY (#/ha): 0.12 N/A 47 TEST PITS - NO. : 1 0.6-0.9-1.2 - DEPTH (=): 1.7 EXPOSURES - NO. Ô 1 - DEPTH (.) ; DEPTH (.) : N/A DATA QUALITY : FAIR E TOPOGRAPHY : RIDGE TOPS SLOPE: GENTLE TO STEEP DRAINAGE : MODERATE TO GOOD, INTO LAKES, OCEAN SOURCE TOPOGRAPHY : AREA DRAINAGE ; SPARSE GRASSES SOURCE VEGETATION 1 PERMAFROST FEATURES: ACTIVE LAYER (.) : UNKNOWN 0.5 MINIMUM DESCRIPTION DATE : 09/30/90 LANDFORM(S) : DELTA OVERBURDEN-TYPE : GRAVEL-trace org, TOPSOIL GENERIC ORIGIN GLACIOFLUVIAL GENERIC ORIGIN : GLACIOFLUVIAL GRANULAR - TYPE : GRAVEL, SAND, SILT - THICKNESS (m) : 0.3-0.9-1.2m - THICKNESS (m) : 0-0.05-0.1 UNDERBUKDEN : SIL1,CLAY DEVELOP. CONSTRAINT: ACCESS, DRAINAGE, POSSIBLE MASSIVE ICE DEVELOP. POTENTIAL : FAIR MOISTURE CONTENT-NUMBER : 0 -RESULTS: 5.8-6.3 (2): 53 FINES (2): 5 USU NUMBER : 19 CLASS : SP, 6P, SM, ML SIZE ANALYSIS-NO. : GRAVEL (%) : 42 SAND (%): 53 - OVERSIZE (%) : D-50 (um) : 02000 PETROGRAPHIC ANALYSIS-NO. OF TESTS: 1 RESULTS: 261 OTHER TESTS (see the DATA DICTIONARY) : ORG CONTENT CLASS 1: 5500-5500-13300 CLASS 2: 5500-5500-13300 MATERIAL QUANTITY (All in cubic metres) TOTAL RECOVERABLE : 2533000 ANNUAL RECOVERABLE : 633500 CLASS 3: CLASS 4: 45900-70760-123960 251800-2450280-6869180 CLASS 5: TOTAL VOLUME : 2533000 RECORD UPDATED BY : EBA87, ILA88, EBA91 LAST UPDATE : 03/31/91 EBA PROJECT NUMBER : 0701-10526



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PAULATUK GRANULAR RESOURCES DATABASE SOURCE DATABASE DATA SHEET SOURCE NUMBER : 91-P-24 NTS MAP REFERENCE : 97C8 UTM ZONE & EASTING : 10 457250 NORTHING : 7694000 POPOSED N : 91-P-24 STUDY NO. : GNWT91PL, TC82P REFERENCE : DIGITIZ NO: MAP SCALE : 1: 50000 LOCATION : 0.5-2.0KM N OF PAULATUK LOCAL NAME(S) PROPOSED NEW AIRSTRIP 1 CORRIDOR NO. /NAME : KILOMETRE POST OFFSET(a) : : CROSS REFERENCES : SOURCE ACCESS : WINTER ROAD UNTIL AIRSTRIP BUILT ACCESS DISTANCE (.): 500 CONDITION : WINTER AREA (ha) : 105 SITE SCALE: 1:10000 DIGITIZ NO: LAND TENURE : INUVIALUIT 7(1)(A) - PAULATUK STATUS : UNDEVELOPED PAST USE - SOURCE : NONE PERFORMANCE RATING : N/A STOCKPILE - TYPE : N/A - QUANTITY : N/A INVESTIGATION LEVEL: DRILLING FOR AIRSTRIP LAST INVEST DATE : 1982 GEOPHYSICAL DATA : N/A TEST HOLE DENSITY (#/ha): 0.05 BOREHOLES - NUMBER : 5 TEST PITS - NO. : 0 EXPOSURES - ND. 0 : - DEPTH (.) : 0.6-0.8-0.9 - DEPTH (a): 0 DEPTH (.) : N/A DATA QUALITY : FAIR SOURCE TOPOGRAPHY : AREA DRAINAGE ; COASTAL PLAIN SLOPE MODERATE TO POOR, INTO OCEAN SLOPE: FLAT SOURCE VEGETATION SPARSE GRASSES : PERMAFROST FEATURES: UNKNÛWN ACTIVE LAYER (m) : GENERIC ORIGIN : DESCRIPTION DATE : 07/25/82 0.5 MINIMUM GENERIC ORIGIN : GLACIOFLUVIA GRANULAR - TYPE : SAND, SILT - THICKNESS (.) : 0.1-0.5-0.8 GLACIOFLUYIAL DELTA LANDFORM(S) : BEACH OVERBURDEN-TYPE : PEAT - THICKNESS (.) : 0.3-0.5-0.7 UNDERBURDEN : PEAT DEVELOP. CONSTRAINT: DRAINAGE, POSSIBLE MASSIVE ICE, EROSION DEVELOP. POTENTIAL : POOR TO FAIR USC NUMBER : HOISTURE CONTENT-NUMBER : 0 6 CLASS : SP-SM -RESULTS: SIZE ANALYSIS-NO. : FINES (%): GRAVEL (%) : SAND (Z): - OVERSIZE (1) : D-50 (ue) : PETROGRAPHIC ANALYSIS-NO. OF TESTS: 0 RESULTS: OTHER TESTS (see the DATA DICTIONARY) : MATERIAL QUANTITY (All in cubic metres) CLASS 1: 0 CLASS 2: 0 TOTAL RECOVERABLE : 679000 CLASS 3: 9190-183490-606990 ANNUAL RECOVERABLE : 340000 CLASS 4: 8640-318240-752140 CLASS 5: 0 TOTAL VOLUME : 1359100 RECORD UPDATED BY : EBA91 LAST UPDATE : 03/31/91 EBA PROJECT NUMBER : 0701-10526



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APPENDIX E

BOREHOLE/TESTPIT LOGS INCLUDED IN DATABASE



TERMS USED ON BOREHOLE LOGS

TERMS DESCRIBING CONSISTENCY OR CONDITION

COARSE GRAINED SOILS (major portion retained on 0.075mm sieve): includes (1) clean gravels and sands, and (2) silty or clayey gravels and sands. Condition is rated according to relative density, as inferred from laboratory or in situ tests.

DESCRIPTIVE TERM	RELATIVE DENSITY	N (blows per 0.3m)
Very Loose	0 to 20%	0 to 4
Loose	20 to 40%	4 to 10
Compact	40 to 75%	10 to 30
Dense	75 to 90%	30 to 50
Very Dense	90 to 100%	greater than 50

The number of blows, N, on a 51mm O.D. split spoon sampler of a 63.5kg weight falling 0.76m, required to drive the sampler a distance of 0.3m from 0.15m to 0.45m.

FINE GRAINED SOILS (major portion passing 0.075mm sieve): includes (1) inorganic and organic silts and clays, (2) gravelly, sandy, or silty clays, and (3) clayey silts. Consistency is rated according to shearing strength, as estimated from laboratory or in situ tests.

D	DESCRIPTIVE TERM	UNCONFINED COMPRESSIVE STRENGTH (kPa)						
	Very Soft	Less Than 25						
	Soft	25 to 50						
	Firm	50 to 100						
	Stiff	100 to 200						
	Very Stiff	200 to 400						
	Hard	Greater Than 400						
	compressive strengths than shown weakness or cracks in the soil.	above, because of planes of						
	GENERAL DE	SCRIPTIVE TERMS						
Slickensided Fissured	 having inclined planes of w containing shrinkage crack less vertical. 	veakness that are slick and glossy in appearance. is, frequently filled with fine sand or silt; usually more or						
Laminated	- composed of thin layers of	varying colour and texture.						
	- composed of alternate laye	ers of different soil types.						
Well Graded	- having wide range in grain	sizes and substantial amounts of intermediate particle						

- predominantly of one grain size, or having a range of sizes with some intermediate

sizes.

size missing.



Poorly graded

UNIFIED SOIL CLASSIFICATION †

	MAJ	OR DIVISI	ONS	GROUP SYMBOLS	TYPICAL NAMES	CLASSIFICATION CRITERIA
_		sieve sieve	EAN VELS	GW	Well-graded gravels and gravel-sand mixtures, little or no fines	$ \begin{array}{c} $
S	sieve -	RAVELS or more c rse fraction t on No. 4	GRA	GP	Poorly graded gravels and gravel-sand mixtures, little or no fines	US ST C C C C C C C C C C C C C C C C C C
SOIL:	4o. 200 :	50% 50% coa coa	VELS TH JES	GМ	Silty gravels, gravel-sand- silt mixtures	to t
AINEC	ed on N		GRA N N	GC	Clayey gravels, gravel-sand- clay mixtures	Atterberg limits plot above "A" line requiring use of dual and plasticity index greater than 7 symbols
ARSE-GR	n 50% retain	ot eve	EAN NDS	sw	Well-graded sands and gravelly sands, little or no fines.	$C_u = D_{60}/D_{10}$ Greater than 6 $C_u = D_{60}/D_{10}$ Greater than 6 $C_c = \frac{(D_{30})^2}{D_{10} \times D_{60}}$ Between 1 and 3
8	More tha	ANDS than 50% se fractio s No. 4 si	SAC	SP	Poorly graded sands and gravelly sands, little or no fines	S Z S S S S S S S S S S S S S S S S S S
		More coar passe	LDS TH ES	SM	Silty sands, sand-silt mixtures	a a c g b c g g c c g g c c g g c c g g c c g g
			SAN	SC	Clayey sands, sand-clay mixtures	Atterberg limits plot above "A" line requiring use of dual and plasticity index greater than 7 symbols
		٩YS		ML	Inorganic silts, very fine sands, rock flour, silty or clayey fine sands	60 PLASTICITY CHART For classification of line-grained
OILS	200 sieve *	AND CL	0% or less	CL	Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays	solis and line fraction of coarse- grained solis. Atterberg limits plotting in hatched area are borderline classifications prequiring use of dual symbols.
AINED S	FINE-GRAINED SOI 50% or more passes No. 200	SILTS	2.0	OL	Organic silts and organic silty clays of low plasti- city	Equation of A-line. P1 : 0.73 (LL - 20)
FINE-GR		CLAYS	50%	мн	Inorganic silts, micaceous or diatomaceous fine sands or silts, elastic silts	мн & он
		AND	iter than	СН	Inorganic clays of high plasticity, fat clays	
		SILTS	greá	он	Organic clays of medium to high plasticity	0 L 20 30 40 50 60 70 80 90 100 LIQUID LIMIT
HIG	HLY	ORGANIC	SOILS	Pt	Peat, muck and other highly organic soils	 Based on the material passing the 3-in. (75-mm) sieve † ASTM Designation D 2487



PAULA	TUK	CON	IMUNITY GRANULAR RESOURCES	ORIGINAL BOR	EHOLE NO): 1			BOREHOLE No.	PL82	BHO	1
TRANS	POR	T CA	NADA	DRILLING EQUI	PMENT: H	AND AUGER		Project No: TC				
SOURC	ΈN	10. 2	4, PAULATUK AIRPORT, NWT	UTM ZONE: 10	N76942	55.00 E4576	00.00	ELEVATION 3.03 (m)				
SAMPI	E	TYPE	DISTURBED NO RECOVER	(🛛 SPT		A-CA	SING	∏] s	HELBY TUBE	CORE		
PTH (m)	PLE TYPE	MPLE NO	SOIL	T	20 20 PLASTIC	■ SAND (%) ■ 40 60 ♦ GRAVEL (%) ● 40 50 N.C.	80 80 LIQUID	G	ROUND ICE	U	SC	(ft) (ft)
出	SAM	R	DESCRIPTION	N	F	••	1	D.	LOOM NON			B
0.0	S		SAND (sp—sm) — trace organics, grained, wet, brown, trace rootlets — silty, yellowish brown — gravelly, frozen at 0.6m END OF BOREHOLE (Refusal of Seepage at 0.2m	fine 11 0.6m)	20	40 60	80	FROZEI	N AT 0.6m	SM SP		0.0
-1.0												-5.0
-2.0												
]	EBI	A Engineering Consult	ants Ltd	•	COMPLETIO	N DEPTH C).6 m	COMPLE	TE 82/0	/25	
			Yellowknife N.W.7	[[WG NO.	P	age 1	of 1				

PAULATUK CO	MMUNITY GRANULAR RESOURCES	ORIGINAL BOR	EHOLE NO): 2		BOREHOLE No.	PL82BH02						
TRANSPORT C	ANADA	DRILLING EQUI	PMENT: H	IAND AUGER	۲	Project No: TC							
SOURCE NO. :	24, PAULATUK AIRPORT, NWT	UTM ZONE: 10	N76945	85.00 E45	7720.00	ELEVATION 3.68	, (m)						
SAMPLE TYPI	e 📕 disturbed 🗌 no recover	RY 🔀 SPT			CASING	SHELBY TUBE	CORE						
			20	■ SAND (%) 40 60	80								
<u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u></u>	SOIL		20	♦ GRAVEL (%) 40 60	♦ 80	GROUND ICE	E E						
APLE PT		M	PLASTIC	M.C.	Liquid	DESCRIPTION							
SAN DE		.N		•			B						
0.0	SAND (sp-sm) - some organics.	moist.	20	40 60	08								
	SAND (sp-sm) - some organics, black, trace rootlets - no organics, gravelly, wet, yello brown PEAT - sandy, black SAND (sp-sm) - gravelly, satura END OF BOREHOLE (Refusal Seepage at 0.85m	moist, pwish ted at 0.9m)				FROZEN AT 0.88m	OL 111 0.0 CCCC CCCC CCCC CCCC CCCC CCCC CCCC CCCC CCCC CCCC CCCC CCCC CCCC CCCC CCCC CCCC CCCC CCCC CCCC CCCC CCCC CCCC CCCC CCCC CCCC CCCC CCCC CCCC CCCC CCCC CCCC CCCC CCCC CCCC CCCC CCCC CCCC CCCC CCCC CCCC CCCC CCCC CCCC CCCC CCCC CCCC CCCC CCCC CCCC CCCC CCCC CCCC CCCC CCCC CCCC CCCC CCCC CCCC CCCC CCCC CCCC CCCC CCCC CCCC CCCC CCCC CCCC CCCC CCCC CCCC CCCC CCCC CCCC CCCC CCCC CCCC CCCC CCCC CCCC CCCC CCCC CCCC CCCC CCCC CCCC CCCC CCCC CCCC CCCC CCCC CCCC CCCC CCCC CCCC CCCC CCCC CCCC CCCC CCCC CCCC CCCC CCCC CCCC CCCC CCCC CCCC CCCC CCCC CCCC CCCC CCCC CCCC CCCC CCCC CCCC CCCC CCCC CCCC CCCC CCCC CCCC CCCC CCCC CCCC CCCC CCCC CCCC CCCC CCCC CCCC CCCC CCCC CCCC CCCC CCCC CCCC CCCC CCCC CCCC CCCC CCCC CCCC CCCC CCCC CCCC CCCC CCCC CCCC CCCC CCCC CCCC CCCC CCCC CCCC CCCC CCCC CCCC CCCC CCCC CCCC CCCC CCCC CCCC CCCC CCCC CCCC CCCC CCCC CCCC CCCC CCCC CCCC CCCC CCCC CCCC CCCC CCCC CCCC CCCC CCCC CCCC CCCC CCCC CCCC CCCC CCCC CCCC CCCC CCCC CCCC CCCC CCCC CCCC CCCC CCCC CCCC CCCC CCCC CCCC CCCC CCCC CCCC CCCC CCCC CCCC CCCC CCCC CCCC CCCC CCCC CCCC CCCC CCCC CCCC CCCC CCCC CCCC CCCC CCCC CCCC CCCC CCCC CCCC CCCC CCCC CCCC CCCC CCCC CCCC CCCC CCCC CCCC CCCC CCCC CCCC CCCC CCCC CCCC CCCC CCCC CCCC CCCC CCCC CCCC CCCC CCCC CCCC CCCC CCCC CCCC CCCC CCCC CCCC CCCCCC						
EB.	A Engineering Consult	ants Ltd		COMPLETIO	on depth ().9 m COMPI	LL ETE 82/07/25						
Vellow/2016 NWT													
L		1,	Yellowknife N.W.T. LOGGED BY ES DWG NO. Poge										

PAULA	TU	K CI	MMUNITY GRANULAR RESOURCES	ORIGINAL BOR	EHOLE NO): 3				BOREHOLE No.	PL82BH	03]
TRANS	SPO	RT (ANADA	DRILLING EQUI	PMENT: H	and aug	ER			Project No: TC		
SOUR	CE	NO.	24, PAULATUK AIRPORT, NWT	UTH ZONE: 10	N76945	85.00 E4	5768	30.00	محجبان	ELEVATION 3.68 (m	1) 7	
SAMP	<u>LE</u>	TYF	E DISTURBED NO RECOVER	ry 🔀 SPT	SPT A-CASING				┍╶Ш	SHELBY TUBE		<u> </u>
	Ы		2011		20	■ SAND (2 40 €	50 50	80				\square
<u> </u>	Σ		SOIL		20	♦ GRAVEL { 40 €	%)♦ 50	80		GROUND ICE		E E
TH	APLE	Ā	DESCRIPTIO	V	PLASTIC	M.C.		Liquid		DESCRIPTION	USC	LT d
l B	SAN	0		. •	1	40			1			ā
0.0	╀	-	TOPSOIL – dark brown			40 0	50	- 08				0.0
-1.0			- some sand SAND (sp-sm) - gravelly, satura <u>vellowish brown</u> END OF BOREHOLE (Refusal Seepage at 0.7m	ted, at 0.8m)					FROZ	EN AT 0.8m	0L	-5.0
		ΕE	A Engineering Consult	ants Ltd.	•	COMPLE	TION	DEPTH	0.8 m	COMPLETE	82/07/25	
			Yellowknife N.W.	<u>[.</u>		LOGGED	BY	ES		DWG NO.	Page	l of 1

PAULAT	υĸ	CON	IMUNITY GRANULAR RESOURCES	ORIGINAL BOR	EHOLE NO	: 4				BOREHOLE No.	PI 82F	H04	
TRANSF	-0F	RT CA	NADA	DRILLING EQUI	PMENT: H	AND AU	GER	··· ·· ··· ··· ··· ···	Project No: TC				
SOURC	E١	10. 2	4, PAULATUK AIRPORT, NWT	UTM ZONE: 10	N76947	75.00 E	45778	35.00	ELEVATION 3.77 (m)				
SAMPL	Ē	TYPE	disturbed 🗌 no recover	Y 🛛 SPT			A-CAS	SING		Shelby Tube	CORE		
H (m)	ETYPE	LE NO	SOIL		$\begin{array}{c c} \blacksquare \text{ SAND } (\%) \blacksquare \\ 20 & 40 & 60 & 80 \\ \hline & \text{GRAVEL } (\%) \diamondsuit \\ 20 & 40 & 60 & 80 \end{array}$					GROUND ICE			
DEPT	SAMPL	SAMP	DESCRIPTION	N	PLASTIC	M.C.	•	liquid 1		DESCRIPTION			DEPI
			DEAT candy come realists		20	40	60	80	ļ				10
-1.0			PEAT - sandy, some rootlets SAND (sp-sm) - saturated at 0.4 yellowish brown END OF BOREHOLE (Refusal Seepage at 0.4m	4m, at 0.8m)					FRD	ZEN AT 0.75m	SL B		5.0
	Ŧ	R/	Engineering Consult	ants Itd	<u> </u>	COMPLI	ETION	DEPTH I].8 m	COMPLET	L F 82/07/	∟ ⁄25	
	•		Yellowknife NW7		•	LOCCEL) RY	FS		DWG NO	, 0// Pa/	 pet∧f	1
L				•		LUUULL					1.00	pe i 01	•

	IV	004				<u>).</u> 5				BORFHOLE No	DIS		15
TRANSPO			NADA	DRILLING EQU	PMENT: H	IAND A	UGER			Project No: TC		ZDIIC	15
SOURCE	N	0. 24	4, PAULATUK AIRPORT, NWT	UTH ZONE: 10	N76948	75.00	E4578	50.00		ELEVATION 3.94	(m)		
SAMPLE	T	YPE	DISTURBED NO RECOVER	Y 🛛 SPT			A-CA	SING		SHELBY TUBE		RE	
		Т	- <u> </u>		20	SANE) (%) ∎ 60	80					
E C		2	SOIL			♦ GRAVE	<u>a (x)</u> ♦		(GROUND ICE			E)
TH		믭		т		40				naaninmaa		USC	E
	MAN	₹,	DESCRIPTION	N		M.	.u, •			ESCRIPTION			BE
	1		ΤΟΡΟΛΙΙ		20	40	60	80				- 11.1.	00
0.0			IUPSUL									OL	0.0
		ŀ	SAND (sp-sm) - moist, brown										
												0000	2
												~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	1
									-			GD 0000	
									FROZE	N AT 0.85m			
			- saturated									0000	2
												000	
		ł										000	
		ł	END OF BOREHOLE (Refusal	at 0.9m)								0000	2
-1.0			Seepage at 0.6m										
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-													-5.0
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	F	BA	Engineering Consult	ants Ltd	<u> </u>	COMF	PLETION	i depth		COMPL	ETE 82	/07/25	
	-		Yellowknife NW7		•	LOGG	ED BY	ES		DWG NO.	/	Page 1	of 1
						1						1.190	

GNMT     DEPL. (PF TRANSPORTATION     DRLLING EQUIPMENT: hand ouger     Project No: CAVAT       SOURCE NO: ZS, PAULATUK, NWT     UTM ZONE: 10 N/62000.00 E459555.00     LELEVAND 0.00 (m)       SAMPLE TYPE     DISTURBED     No recovery     SPT       B     SOIL     20 40 80 80     GROUND ICE       USC     DESCRIPTION     20 40 80 80     GROUND ICE       USC     DESCRIPTION     20 40 80 80     GROUND ICE       DOPSOIL     DOSS grovel     04 LIII       SAND (sp) - some grovel, trace silt     04 LIII       END OF BOREHOLE (0.8m)     Noisture contents based on visual estimate       Hail     Hold Stare contents based on visual estimate	PAULA	TUK	CON	IMUNITY GRANULAR RESOURCES	ORIGINAL BOR	EHOLE NO	): 1 (	Area 1	}		BOREHOL	ENO. PLS	OBHC	1	
SUBJEC NO. 23, PAULATUK, NWT UTW ZONE: 10 N7692000.00 E499555.00 [LEVATINA 0.00 (m) SAMPLE TIPE DISTURED NO. RECOVERY SITE SAMPLE TIPE DISTURED SOUL SOUL DESCRIPTION TOPSOIL - loose gravel SAMD (sp) - some gravel, trace sit -1.0 -2.0	GNWT	- [	DEPT.	OF TRANSPORTATION	DRILLING EQU	PMENT: h	and	auger	•		Project No: GNWT				
SAMPLE TYPE       DISTURBED       ○ NO RECOVERY       SPT       A-CANK       III SHELBY TUBE       III CORE         Image: Second secon	SOUR	CE N	<b>VO.</b> 2	3, PAULATUK, NWT	UTH ZONE: 10	) N76920	00.00	) E459	555.00		ELEVATION 0.00 (m)				
End of Borenois     SOIL DESCRIPTION     20 400 (S) (S) 80 (S) 80 DESCRIPTION     GROUND ICE DESCRIPTION     USC       0.0     TOPSOIL - loose gravel SAND (sp) - some gravel, trace silt     Image: Construction of the second	SAMP	ĽE	TYPE	DISTURBED NO RECOVER	Y ⊠ ऽ₽Т			<u> </u>	ASING		] Shelby Tub	E 🚺 CO	RE		
SOIL       DESCRIPTION       GROUND ICE       DESCRIPTION         DO       TOPSOL - loose gravel       vac. uoun       DESCRIPTION       USC         SAND (sp) - some gravel, trace silt       •       •       •       •         -       END OF BOREHOLE (0.8m)       •       •       •       •         -1.0       Moisture contents based on visual estimate       •       •       •       •         -2.0       -2.0       •       •       •       •       •       •       •	_	μ				■ SAND (%) ■ 20 40 60 80									
End     DESCRIPTION     Pusic     uc.     uaw       10     TOPSOIL - loose gravel     0     0     0       SAND (sp) - some gravel, trace sit     •     •     •       -     END OF BOREHOLE (0.8m)     •     •       Hubble contents based on visual estimate     •     •       -1.0     by logger only.     •	E)	Ľ	NC	SOIL		20	GRA	VEL (%)	80		GROUND	ICE		(Ħ)	
E     B     S     DESCRIPTION       10PSOL - loose gravel     20 40 60 80     0       20 40 60 80     0     0       20 40 60 80     0     0       20 40 60 80     0     0       20 40 60 80     0     0       20 40 60 80     0     0       20 40 60 80     0     0       20 40 60 80     0     0       20 40 60 80     0     0       20 40 60 80     0     0       20 40 60 80     0     0       20 40 60 80     0     0       20 40 60 80     0     0       20 40 60 80     0     0       20 40 60 80     0     0       20 40 60 80     0     0       20 40 60 80     0     0       20 40 60 80     0     0       20 40 60 80     0     0       20 40 60 80     0     0       20 40 60 80     0     0       20 40 60 80     0     0       20 40 60 80     0     0       20 40 60 80     0     0       20 40 60 80     0     0       20 40 60 80     0     0       20 40 60 80     0     0       20 40 60 80     0	H	ЧШ	IPLE	DECODIDEION	т	DI ASTIC		<u> </u>		10	TROODID		USC	H	
0.0     10PSOIL - loose gravel       SAND (sp) - some gravel, trace sit       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -       -	B	SAM	SAN	DESCRIPTION	N			·····			DFOCKIL	TION		B	
-1.0     SAND (sp) - some grovel, trace slit       -1.0     END OF BOREHOLE (0.8m)       Moisture contents based on visual estimate by logger only.	00	Ľ				20	40	60	80		.,			00	
-1.0 END OF BOREHOLE (0.8m) Moisture contents based on visual estimate by logger only.	0.0			SAND (sp) — some gravel, trace s	silt	•								0.0	
-1.0 END OF BOREHOLE (0.8m) -1.0 Moisture contents based on visual estimate by logger only.						•									
-1.0 END OF BOREHOLE (0.8m) Moisture contents based on visual estimate by logger only.						•							2000 2000 2000		
-1.0 Woisture contents based on visual estimate by logger only.	-													2	
-1.0 Noisture contents based on visual estimate by logger only.						•								)	
-1.0 Noisture contents based on visual estimate by logger only.						<b> </b> •									
-1.0 Moisture contents based on visual estimate by logger only.				END OF BOKEHULE (0.8m)											
	1.0			Moisture contents based on visua by logger only	l estimate										
	-1.0														
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	Γ													-5.0	
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	-2.0														
	2.0														
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EBA Engineering Consultants Ltd. COMPLETION DEPTH 0.8 m COMPLETE 90/09/27		<b>l</b>	EB	A Engineering Consult	ants Ltd	_ <u>: : :</u>	CON	IPLETIC	IN DEP	<u>:</u> [H 0.8 m	(	COMPLETE 90	/09/27	1	
Yellowknife N.W.T. LOGGED BY FA DWG NO. Poge 1 o	Yellowknife N.W.T.								y fa		DWG NO.		Page 1	of 1	

PAULATUK COMMUNITY GRANULAR RESOURCES	ORIGINAL BOR	EHOLE NO	): 2 (Area	1)		BOREHOLE No.	PI 90BH0	$\overline{2}$
GNWT - DEPT. OF TRANSPORTATION	DRILLING EQU	PMENT: h	and auge	 r		Project No: GN	WT	-
SOURCE NO. 23, PAULATUK, NWT	UTM ZONE: 10	) N76920	30.00 E45	59495.00		ELEVATION 0.00	) (m)	
SAMPLE TYPE DISTURBED NO RECOVED	RY 🛛 SPT		A-	-CASING		SHELBY TUBE	CORE	
w _		20	SAND (%)	)∎ 0 80				
		20	GRAVEL (7	<b>()</b> ♦		GROUND ICE		E)
	NI	DUACTIC	<u> </u>		$\overline{1}$	TROODIDMAN	USC	HI
	IN		₩.C. 		, I	DEPOKIL HON		BO
		20	40 6	0 80				0.0
SAND (sp) = arayelly								0.0
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		•					0000	
- some gravel, trace silt							0000	1
							SM CODD	
							6000	4
Moisture contents based on visue	al estimate							
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-								-50
								0.0
								-
-2.0								
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F								1
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FBA Engineering Congul	tanta Itd				: <u> </u> H 1 0 m	CUTO		<u> </u>
	uanto blu T	•					  	of 1
Ienowkime N.W.	1.		LUGGED	DT FA		DWG NU.	rage	

PAULATIJK (	COM	MUNITY GRANULAR RESOURCES	ORIGINAL BOR	EHOLE NO	): 1 (A	rea 21			BOREHOLE No.	PI 901	340	3 1
GNWT - DF	EPT.	OF TRANSPORTATION	DRILLING EQUI	PMENT: h	iand ai	uqer		Project No: GNWT				
SOURCE NO	0. 2	3. PAULATUK, NWT	UTM ZONE: 10	) N76916	10.00	E4594	50.00		ELEVATION 0.00	(m)		
SAMPLE T	YPE		Y XISPT			A-CAS	SING	- m	SHELBY TUBE	CORE		
	T		<u></u>	0.0	SANE	) (%)						
Ω L	9	SOII			+0 ♦ GRAVE	00 1 (%)♦	07	(	GROUND ICE			(£)
E	띩		_	20	40	60	80			US	SC	표
AMP CE	WW	DESCRIPTION	N	PLASTIC	M	.C.	liquid		DESCRIPTION			DE D
~ v				20	40	60	80					
0.0		GRAVEL – loose		•						GM		0.0
		SAND (sp) — trace of gravel									0000	
											0000	
										SP	0000	-
											0000	
											0000 0000	
		SILT (ml) — trace sand									ΠΠ	
				••						ML		-
		POSSIBLE SILT										-
				•						ML		
				•								
		END OF BOREHOLE (1.0m)										
		Moisture contents based on visual	l estimate									
		by logger only.										F
												-5.0
20												ļ
2.0												
												-
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									<b>r</b>			
E	BA	A Engineering Consult	ants Ltd	•	COMF	PLETION	DEPTH 1	l.0 m	COMPLI	ETE 90/09	/27	
ļ		Yellowknife N.W.T	1		LOGG	ED BY	FA		DWG NO.	Po	ge 1	of 1

GRWT DEF. OF TRANSPORTATION SURGE NO 23, PALLATUK, NMT UTW ZONE: TO KTRENGSON COLOUR SURGE NO 24, PALLATUK, NMT UTW ZONE: TO KTRENGSON COLOUR SUBJECT OF TRANSPORTATION SUBJECT		TUK	( 00)	MUNITY GRANIILAR RESOURCES	ORIGINAL BOR	EHOLE NO	: 2 (Area	2)		BOREHOLE No.	PI 90BHC	)4		
SOURCE NO. 23. PAULATUK, NMT UNK ZONE: 10 N7691645:00 E45070.00 [ELEVATON 0.00 (m) SAMPLE TIPFE DOSLARSICO ☐ NO RECOVERY	GNWT	- (	DEPT.	OF TRANSPORTATION	DRILLING EQU	IPMENT: h	and auger	-		Project No: GNWT				
SAMPLE TYPE DISTURBED NO RECOVERY SPT - COMPLETION THE DISCRIPTION SOLUTION STATUS AND TABLE TO THE DISCRIPTION OF THE DISCRIPT	SOUR	CE I	NO. 2	3, PAULATUK, NWT	UTM ZONE: 10	) N769164	45.00 E45	9470.00		ELEVATION 0.00	) (m)			
Image: Solution of the second state	SAMP	LE	TYPE	DISTURBED NO RECOVER	RY SPT		A-	-CASING	SI	HELBY TUBE	CORE			
Image: Solution of the second construction o		ш				20	■ SAND (%) 40 60	)∎ ) 80						
End       DESCRIPTION       Paster u.c. usure to the topological provided in the topological	E	LγP	NC	SOIL		♦ GRAVEL (%) ♦ 20 40 50 80			] G	ROUND ICE		E		
B       S       JDESCRIPTION       Description       Descripti	H	PLE	APLE	DECODIDEIO	AT.	DIASTIC	<u>~ ~ ~</u>		1 n	ROODIDINIAN	USC	HE		
0.0         TOPSOIL - bose gravel         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0	B	SAM	SAN	DESCRIPTION	N		₩.C.	{	וע	POCKIL HON		BO		
Consult of BOREHOLE (1.0m)     Consultants Ltd.     Complete 90/09/27     Yellowknife N.W.T.	0.0					20	40 64	0 80				00		
END OF BOREHOLE (1.0m)      Moisture contents based on visual estimate     by logger only.      EDA Engineering Consultants Ltd.     Yellowknife N.W.T.      COMPLETION DEPTH 1.0 m     COMPLETE 90/09/27      Yellowknife N.W.T.      DOGED BY FA     DWG NO.     Poge 1 of 1				GRAVEL (gp) — sandy		•								
-1.0 END OF BOREHOLE (1.0m) Moisture contents based on visual estimate by logger only2.0 EBA Engineering Consultants Ltd. Yellowknife N.W.T. COMPLETION DEPTH 1.0 m COMPLETE 90/99/27 LOCKED BY FA DWG NO. Page 1 of 1						•					GP 444 44 64 64 64 64 64 64 64 64 64 64 64	6 6 		
EBA Engineering Consultants Ltd. Yellowknife N.W.T.      COMPLETE S0/09/27       COMPLETE S0/09/27      COMPLETE S0/09/27      COMPLETE S0/09/27      COMPLETE S0/09/27      COMPLETE S0/09/27      COMPLETE S0/09/27      COMPLETE S0/09/27      COMPLETE S0/09/27      COMPLETE S0/09/27      COMPLETE S0/09/27      COMPLETE S0/09/27      COMPLETE S0/09/27      COMPLETE S0/09/27      COMPLETE S0/09/27      COMPLETE S0/09/27      COMPLETE S0/09/27      COMPLETE S0/09/27      COMPLETE S0/09/27      COMPLETE S0/09/27      COMPLETE S0/09/27      COMPLETE S0/09/27      COMPLETE S0/09/27      COMP						•					4 4 4 4 6 4 6 4 7 4 6 4 6 7 4 6 4 6			
-2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0	-1.0			END OF BOREHOLE (1.0m)		1						Ì		
-2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0				Moisture contents based on visua	I estimate									
EBA Engineering Consultants Ltd. Yellowknife N.W.T.				by logger only.								5.0		
EBA Engineering Consultants Ltd. Yellowknife N.W.T. COMPLETION DEPTH 1.0 m LOGGED BY FA DWG NO. Page 1 of 1	-2.0													
EBA Engineering Consultants Ltd. Yellowknife N.W.T. COMPLETION DEPTH 1.0 m LOGGED BY FA DWG NO. Poge 1 of 1														
EBA Engineering Consultants Ltd.       COMPLETION DEPTH 1.0 m       COMPLETE 90/09/27         Yellowknife N.W.T.       LOGGED BY FA       DWG NO.       Page 1 of 1														
Yellowknife N.W.T. LOGGED BY FA DWG NO. Poge 1 of 1			ĖB.	A Engineering Consult	ants Ltd	<u></u>	COMPLET	10N DEPTH	1.0 m	COMPL	ETE 90/09/27	1		
			ة حمد م	Yellowknife N.W.	Г.	••	LOGGED	BY FA		WG NO.	Page 1	of 1		

PAULA	TUK	COM	IMUNITY GRANULAR RESOURCES	ORIGINAL BORI	DREHOLE NO: 3 (Area 2)					BOREHOLE No. PL90BH05				
GNWT	- [	EPT.	OF TRANSPORTATION	Drilling Equi	JIPMENT: hand auger					Project No: GNWT				
SOURC	ΈN	10.2	3, PAULATUK, NWT	UTM ZONE: 10	N76915	30.00	E4594	65.00		ELEVATION	ON 0.00 (m)			
SAMPL	E	TYPE	DISTURBED NO RECOVERY	🔀 SPT			A-CA	SING		SHELBY TI	BE [ CO	RE		
	ш				20	■ SANI 40	D(%)∎ 60	80						
E	٤	Σ	SOIL			♦ GRAV	EL (%)♦	80		GROUN	D ICE		E	
르	Щ	F			20	40	0					USC	E	
E E	AMF	SAM	DESCRIPTION		PLASIC		•			DESCRI	PTION		DE	
	<u>م</u>				20	40	60	80		<u>.</u>				
-1.0			TOPSOIL - loose gravel GRAVEL (gp) - sandy SAND (sp) - trace of silt END OF BOREHOLE (1.5m) Moisture contents based on visual by logger only.	estimate								OL	0.0	
		1												
	I	EBA	A Engineering Consulta	ants Ltd.	•	COMF	PLETION	DEPTH	1.5 m		COMPLETE 90,	/09/27		
			Yellowknife N.W.T.			LOGG	ED BY	FA		DWG NO.		Page 1	of 1	
L				•										

PAULA	TUK		IMUNITY GRANULAR RESOURCES	ORIGINAL BORE	HOLE NO	: 4 (Area 2)		BOREHOLE No	BOREHOLE No. PL90BH06		
GNWT	- [	DEPT	OF TRANSPORTATION	DRILLING EQUIF	PMENT: h	and auger	*	Project No: GNWT			
SOUR	CE I	NO. 2	3, PAULATUK, NWT	UTM ZONE: 10	N76915	95.00 E4594	05.00	ELEVATION 0.	00 (m)		
SAMP	<u>LE</u>	TYPE	DISTURBED NO RECOVERY	SPT 🔀		A-CA	SING	SHELBY TUBE	CORE		
	Ц				20	■ SAND (%) ■ 40 60	80				
E	Σ	Х	SOIL		20	♦ GRAVEL (%) ♦ 40 60	80	GROUND IC	E	(H	
PTH	PE	MPL	DESCRIPTION		PLASTIC	M.C.	LIQUID	DESCRIPTIO	NUSC	HI	
出	SAN	R	DESCIMINON		}	•	—	Dibolui 110		B	
0.0	+		TOPSOIL - loose aravel		20	40 60	80			1: 0.0	
-1.0			END OF BOREHOLE (0.8m) Moisture contents based on visual by lagger only.	estimate					GP		
-2.0											
		ÈB,	Engineering Consulta	nts Ltd	<u> </u>	COMPLETION	I DEPTH 0.8 n	1 COMI	PLETE 90/09/		
			Yellowknife NWT			LOGGED BY	FA	DWG NO	Page	e 1 of 1	
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PAULING CAMPOINT ENANDRATION CONTROLLING CONFIDENCE TO CONTROL THE TOPORTON CONTROL CAMPOINT ENDERGING CONTROL CAMPOINT ENDERGIN		<b>11</b> 11/	001				N. 5 (A.	200 2)				DIC		7
Some to 1, or not other     Image: 20th 20th 100th 100th 20th 20th 100th 100th 100th 20th 20th 20th 20th 20th 20th 20th		.10K			DRILLING FOLL	IPMENT: band auger					BUREHULE NO. PL9			<i>)</i> /
SAME THE INCOMENTATION IN A CONTRACT OF A CONSISTENT OF A CONS	SOLIDE	<u>ר ו</u> רב ו			ITH TONE 10	N76015	an an I	901 74503	40.00		FLEVATION O D	0 (m)		
Solution     Control	SAMP					111/0313		ACAS		<u> </u>	SHELBY TUBE		RF	
Image: Solution of the soluti	0/111						SAND	(%) 🔳						
Bit State     SUIL     Description     Description     Description       00     Image: State     Image: State     Image: State     Image: State     Image: State       01     Image: State     Image: State     Image: State     Image: State     Image: State       01     Image: State     Image: State     Image: State     Image: State     Image: State       02     Image: State     Image: State     Image: State     Image: State     Image: State       10     Image: State     Image: State     Image: State     Image: State     Image: State       110     Image: State     Image: State     Image: State     Image: State     Image: State       110     Image: State     Image: State     Image: State     Image: State     Image: State       110     Image: State     Image: State     Image: State     Image: State     Image: State       110     Image: State     Image: State     Image: State     Image: State     Image: State       110     Image: State     Image: State     Image: State     Image: State     Image: State       110     Image: State     Image: State     Image: State     Image: State     Image: State       110     Image: State     Image: State     Image: State     Image: State	<u> </u>	ΎΡ	N	COIL		20	40 ◆ GRAVE	<u>60</u> (%)●	80	ſ	ROUND ICE			Ê
E       S       DESCRIPTION       PLARE       LOUDD       DESCRIPTION       E         00       IOPSOLL - loose growel       00       DESCRIPTION       00       E         10       IOPSOLL - loose growel       0       00       00       00         10       IOPSOLL - loose growel       0       00       00       00         10       IOPSOLL - loose growel       0       00       00       00         10       IOPSOLL - loose growel       0       00       00       00         10       IOPSOLL - loose growel       0       00       00       00         110       IOPSOLL - loose growel       0       00       00       00         110       IOPSOLL - loose growel       0       00       00       00         110       IOPSOLL - loose growel       0       00       00       00         110       IOPSOLL - loose growel       0       00       00       00         110       IOPSOLL - loose growel       0       00       00       00         110       IOPSOLL - loose growel       0       00       00       00         110       IOPSOLL - loose growel       0       00	) H		Щ	DUC		20	40	40 60 80		,			USC	L L
C 35 00     Imposit - loose gravel	EPT	MP	AMP	DESCRIPTION	I	PLASTIC	M.C	2.	liquid	D	ESCRIPTION	I I		EP
Covering Consultants Ltd		S	S			20	40	60	80					
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		]	EB	A Engineering Consult	ants Ltd	•	COMP	ETION	DEPTH 1	l.2 m	COMP	LETE 90,	/09/	
Yellowknife N.W.T. LOGGED BY FA DWG NO. Page 1 of 1		_		<u>Yel</u> lowknife N.W.T	•		LOGGE	D BY	FA		DWG NO.		Page 1	of 1

PAULAT	TUK	COM	MUNITY GRANULAR RESOURCES	ORIGINAL BOR	EHOLE NO	: 6 (Area 2	2)	BOREHO	LE No. PL9	<b>OBHO</b>	8	
GNWT	- D	EPT.	OF TRANSPORTATION	DRILLING EQUI	PMENT: h	and auger	<u> </u>	Project No: GNWT				
SOURC	EN	0. 2	3, PAULATUK, NWT	UTH ZONE: 10	N76916	30.00 E459	170.00	ELEVATION 0.00 (m)				
SAMPL	EI	YPE	DISTURBED NO RECOVER	Y 🛛 SPT		A-0	ASING	SHELBY TU	8E 🔲 COI	RE		
H (m)	E TYPE	LE NO	SOIL		20 20	■ SAND (%) ■ 40 60 ◆ GRAVEL (%) 40 60	80 ♦ 80	GROUN	D ICE	120	H (ft)	
DEPT	SAMPL	SAMP	DESCRIPTION	N	PLASTIC	M.C.	LKQUID	DESCRI	PTION	000	DEPT	
0.0	╞┼		TOPSOIL - some sand and silt			40 50	00			or III	0.0	
-1.0			SAND (sp) - brown SILT (ml) - some sand END OF BOREHOLE (1.0m) Moisture contents based on visua by logger only.	I estimate						ML		
-2.0		ער	Engineering Conquit	opta Itd				0			-5.0	
	H	'BA	A Engineering Consult	ants Ltd	•	COMPLETIC	ON DEPTH 1.	0 m	COMPLETE 90,	/09/		
			Yellowknife N.W.T	n 		LOGGED B	Y FA	DWG NO.		Page 1	of 1	

04114	<b>T</b>					7 (1	()						
				DRILLING FOLL	PMENT h	ond our	50 Z)			Project No: GNWT			
SOUR		VD 2	3 PAULATUK NWT	UTM ZONE 10	N76916	60.00 F	4591	50.00		FLEVATION 0.00	) (m)	· · · · · · · · · · · · · · · · · · ·	
SAMP		TYPE		Y XISPT			A-CAS	SING	Πīs	HELBY TUBE			
	Ī					SAND	(%) =						
(E)	Ъ	g	SOIL			+0 ♦ GRAVEL	(%)♦	<u> </u>	G	ROUND ICE	ľ		(ft)
E	Щ	PE		т	20	40	60	80			. 1	JSC	Η
E E	AMF	SAM	DESCRIPTION	N	PLASIIC	M.C.	•		D	ESCRIPTION			E
					20	40	60	80				11.1.	0.0
0.0			10P501L – some silt and sand		•							x   ' '	0.0
			GRAVEL (am) - some sand, trace	silt	•								
					•								
											Q	**  {\]	-
					•								]
╞			SAND (sm) – siltv		•••••								
													₩ 1-
											5	IM (ODD	2
					•								
ĺ					•							0000	
			END OF BOREHOLE (0.9m)										7
-1.0			Moisture contents based on visua	l estimate									
			by logger only.										
													-
ŝ													
													-5.0
													F
-2.0													
													<b>F</b>
													-
F													
													L
										<u>I</u>			
	J	EB4	A Engineering Consult	ants Ltd	•	COMPL	ETION	DEPTH 0	1.8 m	COMPL	ETE 90/0	)9/	
			rellowknite N.W.'	•		LOGGE	) BY	FA	[	WG NO.		Page 1	of 1

PAULAT	UK C	OMM	IUNITY GRANULAR RESOURCES	ORIGINAL BOR	EHOLE NO	): 8 (Area 2	2)	BOREHOLE	No. PI9	OBH1	0		
GNWT -	- DEF	PT. (	OF TRANSPORTATION	DRILLING EQUI	PMENT: h	and auger	,	Project No:	Project No: GNWT				
SOURCE	E NO	23	, PAULATUK, NWT	UTM ZONE: 10	N76917	05.00 E459	175.00	ELEVATION	0.00 (m)				
SAMPL	e ty	PE	DISTURBED NO RECOVER	Y 🔀 SPT		A-0	ASING	SHELBY TUBE	COF	E			
	ے اب				20	■ SAND (%) ■ 40 60	80						
L L	≥  ₹		SOIL		20	◆ GRAVEL (%) 40 60	◆ 80	GROUND ICE			T (H		
PTH	뷥혴		DESCRIPTION	J	PLASTIC	M.C.	LIQUID	DESCRIPTI	ON	050			
L R	S S	5		١		40 60							
0.0			TOPSOIL - silty		• 20	40 00	- 00				0.0		
			SAND (sm) – some silt		•								
					•								
										6000 6000	2		
										SM (0000 0000			
										0000			
					•					6000 6000			
-1.0					•								
			END OF BOREHULE (1.0m)								-		
			Moisture contents based on visua by logger only.	I estimate									
											Γ		
											-5.0		
									ŀ		Γ		
-2.0													
210													
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	<u>ы</u>		Enginoaning Concell	onto ILJ						/00 /			
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PAULA	TUK	COM	IMUNITY GRANULAR RESOURCES	ORIGINAL BOR	EHOLE NO	: 1 (Area 3	)	BOREHOLE	No. PL90	BH1	1		
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GNWT	- D	EPT.	OF TRANSPORTATION	DRILLING EQUI	PMENT: ho	and auger		Project No	o: GNWT				
SOURC	ΈN	10. 2	3, PAULATUK, NWT	UTH ZONE: 10	N769178	5.00 E456	945.00	ELEVATION	0.00 (m)				
SAMP	El	TYPE	DISTURBED NO RECOVE	रा 🛛 SPT	<b></b>		ASING	SHELBY TUBE		T			
_	Ы	0			20	40 60	80	<b>6</b> 501015	100		$\widehat{\mathbf{T}}$		
u,	Σ	ž	SOIL		20	GRAVEL (%) 40 60	80	GROUND	ICE	20	H (f		
PTH	PE	T T T	DESCRIPTIO	N	PLASTIC	M.C.	LIQUID	DESCRIPT			Ш		
В	SAN	5	DESCIM HO	11		•••					0		
0.0	$\left  \right $		TOPSOIL - some cobbles and bo	ulders	20	40 60	80		OL		0.0		
			SILT (mi) — red		•								
					•								
1					•						_		
										ШЦ			
			SAND (sw)							0000			
F										0000 0000			
					•					0000 0000	-		
									SW	ന ന			
										000 000			
										000	-		
-1.0					•					0000			
			END OF BOREHULE (1.0m)										
			Moisture contents based on visu	al estimate									
			by logger only.								-		
-											-5.0		
											-		
-2.0													
											F		
l													
L											[		
											$\vdash$		
		l FR	L A Engineering Consul	tante Ita			)n depth	1.0 m	L COMPLETE 90/0	<u> </u> 9/	<u> </u>		
		יעים	Yollowknife NW	T	L·		Y FA			-, Page 1	of 1		
L			ICHOWVIIIIC N.W.	1,					Ĺ	-3* '			

PAULATI	UK	COM	MUNITY GRANULAR RESOURCES	ORIGINAL BOR	EHOLE NO	): 2 (4	Area 3)		BOF	EHOLE No.	PI 90B	H12
GNWT -	- DI	EPT.	OF TRANSPORTATION	DRILLING EQU	IPMENT: h	and a	luger		Pro	ject No: GN	IWT	
SOURCE	E N	0. 2	3, PAULATUK, NWT	UTH ZONE: 10	) N76919	10.00	E4569	10.00	ELE	VATION 0.00	0 (m)	
SAMPLE	ΕT	YPE	DISTURBED NO RECOVER	r 🛛 SPT			A-CA	SING	SHELE	BY TUBE	CORE	····
					20	SAN 40	D (%)∎ 60	80				
(E) [	È	2	SOIL			♦ GRAV	ĒL (%)♦		GRO	UND ICE		(ŧ)
H	늰	린	DEGODIDUION	т		<u>40</u>	0	00	DBC		USI	C E
B	MA	₹	DESCRIPTION	N			•		DES	CRIPTION		DE
	1				20	40	60	80				
0.0		ŀ	SAND (sp) — trace organics, coars SILT (ml) — sandy	se grainea	•						194	
					•							
					•							
		ŀ	CLAY (cl) - silty									<del>////</del>
					•							
					•	ļļ					a	
		ŀ	END OF BORFHOLE (0.6m)									4
			Neisture contents based on viewal	a atimat.								
			by logger only.	esumate								
	Ì											-
-1.0												
												_
-												-5.0
-2.0												
	ľ											
	Ē	BA	Engineering Consult	ants Ltd	•	COMF	PLETION	DEPTH 0	.6 m	COMPL	ETE 90/09/	/
			Yellowknife N.W.T	•		LOGG	ED BY	FA	DWG	NO.	Pag	e 1 of 1
٤				•						·····	<u>[.33</u>	

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PAULA			AMONITY GRANULAR RESOURCES	ORIGINAL BOR	EHOLE N	10: 3 (Area 3)	)	BOREHOLE N	<u>o. PL90BH1</u>	3
SOLID				UKILLING EQU	MENI:	nana auger	00.00	Project No: (		· · · · · ·
SAND				V M ZUNE: 10	1 11/6921			ELEVATION 0.	.00 (m)	
JANI							SING	SHELBT TUBE	CURE	T
F	<u>H</u>	ş	COU		20	40 60	80			$\square$
<u>-</u> н	Г Ш	Ш	SUIL		20	40 60	80	GROUND IC		t)
EPT	MPL	₽₩	DESCRIPTION	J	PLASTIC	M.C.	LIQUID	DESCRIPTIO	N USC	L d
	SA	S		1		40 60				ā
0.0			TOPSOIL			40 00	<u> </u>	· · · · · · · · · · · · · · · · · · ·	OL III	0.0
			SAND (sp)		•				~~~~	
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									0000	2
+										
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										1
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-1.0			END OF POPEHOLE (10m)		•					2
			END OF BOREHOLE (1.0m)							
			Moisture content based on visual by logger only	estimate						
			by logger only.							-
L										
										-5.0
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20										
-2.0										
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	ل_ر ا	ΪΒΔ	Engineering Consults	ants Itd				m COME		
	L	1111	Yellowknife NWT	MIND DEU.						
L			TEHOWAIIIE IN.W.I	•		LUGGED BI	г <del>л</del>	UWG NU.	Page 1 (	01 1

	או ד	CON	MUNITY CRANIII AR RESOURCES		HOLE NO	): un-numb	bered		BOREHOLE No	PI C	ORH1	4
CNWT	- r			DRILLING FOUL	PMENT: h	and auger	Vei e U		Project No: GN	WT		
SOUR	YF N	<u>10</u> 2	3 PALILATILK NWT	LITH ZONE 10	N76907	90.00 F459	660.00		FLEVATION 0.00	) (m)		
SAMP		TYPF					ASING	m	SHELBY TUBE		RE	
0/1411						■ SAND (%)						
Ê		2	SOII		20	40 60 ♦ GRAVEL (%)	<u>80</u>	(	ROUND ICE			ŧ
) н	Ш	늬	DOIL		20	40 60	80				USC	E
EPT	ЧW	AMP	DESCRIPTION	V	PLASTIC	M.C.	Liquid	Γ	ESCRIPTION			E E
	Ś	S			20	40 60	80					
-1.0			SAND (sp) — poorly graded END OF BOREHOLE (0.9m)								888 888 888 888 888 888 888 888 888 88	-5.0
-2.0				opta Itd								
		EBI	A Engineering Consult	ants Ltd	•	COMPLETI	ON DEPTH (	).9 m	COMP	LETE 90	/09/	
			Yellowknife N.W.	ľ.		LOGGED E	IY FA		DWG NO.		Page 1	of 1

		CON	MUNITY GRANIII AR RESOURCES		EHOLE N	<u>Э. шр</u> -	numbe	red		BOREHOLE No.		15
GNWT	- [	DEPT.	OF TRANSPORTATION	DRILLING EQU	PMENT: 1	hand a	uaer			Project No: GNV	<u>пцэрон</u> Л	15
SOURC	EN	10. 2	3, PAULATUK, NWT	UTM ZONE: 10	) N76906	20.00	E4596	70.00		ELEVATION 0.00	(m)	
SAMPL	E	TYPE	DISTURBED NO RECOVER	Y 🛛 SPT			A-CA	SING		SHELBY TUBE	CORE	
					20	SAN	D (%) ■	90				
E	비	S	SOIL			♦ GRAV	EL (%)♦		(	GROUND ICE		Œ
표	Щ	Ы		7	20	40	60	80			USC	F
EP	AMF	SAM	DESCRIPTIO	N	PLASTIC	M	.C.	Liquid	D	ESCRIPTION		DEP
	S			•	20	40	60	_80				
0.0			GRAVEL (gp) - loose, trace organ	lics							GP 44	0.0
			SAID (SP) POONS GIVE									Ň
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			END OF BOREHULE (0.9m)									Γ
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	ŀ	EBA	Engineering Consult	ants Ltd.	•	COMP	LETION	DEPTH C	1.9 m	COMPLE	TE 90/09/	
			Yellowknife N.W.7	1		LOGG	ED BY	FA	1	JWG NO.	Page 1	of 1
<u> </u>				-		L						÷· •

<b></b>			· · · · · · · · · · · · · · · · · · ·									
PAULATU	K CO	IMUNITY GRANULAR RESOURCES	ORIGINAL BOR	EHOLE NO	): un-	numbe	ered		BOREHOLE No	<u>. PLS</u>	<u>30BH1</u>	6
GNWI -	DEPT		DRILLING EQU	PMENT: 1	nand a	uger			Project No: G	NWT		
SOURCE	NU. 2	S, PAULATUK, NWI	UIM ZONE: 10	J N76908	35.00	E4595	50.00	TF	LELEVATION O.L	)() (m)		
SAMPLE	T	DISTORBED NO RECOVER			SANI		SING		SHELBY TUBE		RE	1
	0	COLL		20	40	60	80					
		SOIL		20	◆ GRAVI 40	L (%)∢ 60	80		GROUND ICI	5	1100	E
	MPI	DESCRIPTION	N	PLASTIC	м	.C.	LIQUID		DESCRIPTION	и	USU	L d
SALD	5		. 1	⊢		•	1		Discisii 110			B
0.0		GRAVEL (gp) - loose, trace organ	lics	20	40	60	80				GP 444	0.0
		SAND (sp) — poorly graded									~~~	2
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		END OF BOREHOLE (0.9m)									0000	<u>×</u>
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	EBA	Engineering Consult	ants Ltd.	· · · · · · · · · · · · · · · · · · ·	COMP	LETION	DEPTH (	).9 m	COMP	LETE 90,	/09/	_ <b>_</b>
		Yellowknife NWT	1		LOGGI	ED RY	FA		DWG NO		Pone 1	of 1
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	TU	( 00)				<u></u>		rod	· · · ·	PODELIO		000	117
GNWT	I		OF TRANSPORTATION	DRILLING FOUL		o: un-	Iner			Project	No: CNWT	-AORL	11/
SOLIR	CF	NG 2	3 PAULATUK, NWT	LITM ZONE 10	N76907		F4595	580.00		FIFVATIO	N 0 00 (m)		
SAMP	LE	TYPE	DISTURBED NO RECOVER	Y X SPT		20.00	A-CA	SING	ſ	SHELBY TU	BE	CORE	
	Ī.			Kand	0.0	SAN	(%)	00	<b>`</b>				
E)	LγPE	9	SOIL		20	40 ♦ GRAVE	 1 (%)∢	80		GROUNI	D ICE		Œ
H	Ч	Ч Г		-	20	40	60	80				USC	王
E	AMP	SAM	DESCRIPTION		PLASTIC	М	С.	LIQUI	)	DESCRI	PTION		DEP
	S				20	40	60	80					
0.0			<u>GRAVEL (gp) - loose, trace organ</u> SAND (sp) - poorly graded	ics								GP 4	0.0
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1.0			END OF BOREHULE (0.9m)										Γ
<b>Г</b> ^{1.0}													
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	1	F.R.	Engineering Consult	ante Itd		COMP			100 "	n 1	COMPLETE O		
	1	זעט	Yellowknife NWT		•				. 0.3 1				
			Tenowkinie N.W.I	•		LUGG	TO RI	rA 		DWG NO.		Page	1 of 1

CAMIT       CONT       CONT       DET: OF TRANSPORTATION       DRILLING EQUIPMENT: hand auger       Project No: CAMIT         SOURCE NO. 23, PAULATIX, NMT       UIL ZONE: TO X7800400.00 E656570.00       LEXADOR 0.00 (m)       CAMIT	PAULATUK CO	DMMUNITY GRANULAR RESOURCES	ORIGINAL BOR	EHOLE I	NO: 1	un-r	umb	ered			BOREH	OLE No. PI	90BH1	8
SOURCE NO. 23, PULATIVE, INF SAMPLE TYPE CONSUMENCE IN AVG6040000 E455570.00 SAMPLE TYPE CONSUMENCE SOURCE SOURCE IN AVG6040000 E455570.00 SAMPLE TYPE CONSUMENCE SOURCE SOURCE IN AVG6040000 E455570.00 SAMPLE TYPE SOURCE IN A SOURCE INTER IN A SOURCE IN A SOURCE INT	gnwt - dep	T. OF TRANSPORTATION	DRILLING EQUI	PMENT:	han	d au	ger				Project	No: GNWT	00011	
SMPLE TYPE       DISTURBED       Implicit Action       Implicit Ac	SOURCE NO.	23, PAULATUK, NWT	UTM ZONE: 10	N7690	)490	.00	E459	570.	00		ELEVAT	10N 0.00 (m)		
E       SOIL       Description       CROUND ICE       USC         00       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0 <td< td=""><td>SAMPLE TYP</td><td>PE DISTURBED NO RECOVER</td><td>Y 🛛 SPT</td><td></td><td></td><td></td><td>A-C</td><td>ASIN</td><td>;</td><td>0</td><td>SHELBY T</td><td>UBE C</td><td>DRE</td><td></td></td<>	SAMPLE TYP	PE DISTURBED NO RECOVER	Y 🛛 SPT				A-C	ASIN	;	0	SHELBY T	UBE C	DRE	
EBA Engineering Consultants Ltd. Yellowknife N.W.T.       Completion Depth 0.2 m Completion Depth				20		SAND	(%)∎ 60	8	0					
Email       DESCRIPTION       Pace with the second	с <u>Н</u> И	SOIL		~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	•0	RAVE	. (%)	•	·		GROUN	ID ICE	- 	E
E       State       DESCRIPTION       Power are not to be and the second of the seco	E SI		т	20	· ·	<u>+U</u>	00	0			<b>DR</b> AAD	<b>T</b> . <b>(T</b> )	USC	E
0.0         CRAVEL (qp) - losse, trace organics         0.0         Fig. (q) - losse, trace organics         0.0           -         SAND (sp) - poorly graded         0.0         9         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0	SAMIDE	DESCRIPTION	N			M.U			(		DESCRI	PTION		DE
END OF BOREHOLE (0.9m)				20	·	40	60	8	<u>o</u>					
END OF BOREHOLE (0.9m)  END OF BOREHOLE (0.9m)  END OF BOREHOLE (0.9m)  EDD EDD EDD END OF BOREHOLE (0.9m)  EDD EDD EDD EDD ED	0.0	SAND (sp) - poorly graded	ICS											0.0
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		Yellowknife N.W.T	•		LC	GGE	) BY	' FA			DWG NO.		Page 1	of 1

PAULA	TU	K COI	IMUNITY GRANULAR RESOURCES	ORIGINAL BORI	EHOLE NO	): un-	-numbe	ered		BOREH	DLE NO. PIS	10BH	19
GNWT	-	DEPT	OF TRANSPORTATION	DRILLING EQUI	PMENT: H	hand c	uger			Project	No: GNWT	0011	10
SOUR	CE	NO. 2	13, PAULATUK, NWT	UTM ZONE: 10	N76917	55.00	E4590	70.00		ELEVAT	ON 0.00 (m)		
SAMP	<u>LE</u>	TYPE	DISTURBED 🛛 NO RECOVER	Y SPT			<b>A-C</b> 4	SING		Shelby T	JBE 🚺 CO	RE	
	L L L	0			20	■ SAN 40	ID (%)∎ 60	80					
- L T	⊨		SOIL		20	◆ GRAV 40	/EL {%}∢ 60	80		GROUN	D ICE	HEC	T (#
EPT 1	MPL	MPI	DESCRIPTION	J	PLASTIC	k	I.C.	LIQUIO		DESCRI	ption	050	
	S	5		•	20		÷						
0.0	╞		GRAVEL (gp) — loose, trace organ	ics	20	+0				· · · · · · · · · · · · · · · · · · ·			0.0
			SAND (sp) — poorly graded									8	x x
												000	x x
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L												sp 🚥	20
												8	20 20
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												00	20 20
												8	20 20
			END OF BOREHOLE (0.9m)									8	<u>2</u>
-1.0													
													-
1													
+													-5.0
												:	
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20													
2.0													
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F					<b> </b>								
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		ER/	Engineering Consults	ants Ltd	I :	COMF	PLETION	i depth	0.9 m		COMPLETE 90.	/09/	
	•		Yellowknife NWT			LOGG	ED BY	FA		DWG NO	1	Page	l of 1
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PAULA	TUK	CON	IMUNITY GRANULAR RESOURCES	ORIGINAL BOR	EHOLE NO	): un-	numbe	red		BOREHOLE N	o. PI.C	OBH2	20
GNWT	- [	DEPT.	OF TRANSPORTATION	DRILLING EQU	PMENT: 1	nand a	uger			Project No: (	GNWT	00112	
SOUR	CEN	<b>VO.</b> 2	3, PAULATUK, NWT	UTM ZONE: 10	) N76915	60.00	E4591	25.00		ELEVATION 0.	.00 (m)		
SAMP	LE	TYPE	DISTURBED NO RECOVER	Y 🛛 SPT			A-CA	SING		] Shelby Tube		RE	
	Ш				20	■ SAN 40	D (%)∎ 60	80					
<u> </u>	È	ž	SOIL		20	♦ GRAV	EL (%)♦	80	1	GROUND IC	E		Œ
PTH	Ы	MPL	ΠΕΩΟΠΟΤΙΟΝ	J	PI ASTIC	<u>, , , , , , , , , , , , , , , , , , , </u>	0		1	DECODIDATO	NI I	USC	HIG
H الا	SAM	R	DEPCULLIN	N			•			DPOCULL HO	/N		DE
0.0	$\left  \right $		GRAVEL (ap) - loose trace organ	ics	20	40	60	80				CP Is a	00
			SAND (sp) - poorly graded						ļ				0.0
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			END OF BOREHOLE (0.9m)									0000	
-1.0													
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	I	EBA	Engineering Consult	ants Ltd.	•	COMF	LETION	DEPTH	0.9 m	СОМ	PLETE 90,	/09/	- <b>L</b>
			Yellowknife N.W.T	,		LOGG	ED BY	FA		DWG NO.		Page 1	of 1
<u>с                                    </u>						I				<u></u>		1 -	

PAULA	TUK	CON	IMUNITY GRANULAR RESOURCES	ORIGINAL BOR	EHOLE N	0: un-	numbe	red		BOREHOLE No.	. Pl	90RH2	1
GNWT	- [	DEPT.	OF TRANSPORTATION	DRILLING EQUI	PMENT:	hand a	uger			Project No: Gl	WT TW	500112	
SOURC	CE I	NO. 2	3, PAULATUK, NWT	UTM ZONE: 10	) N76917	30.00	E4589	85.00		ELEVATION 0.0	0 (m)		
SAMP	LE	TYPE	DISTURBED NO RECOVER	Y 🛛 SPT			A-CAS	SING		shelby tube		ORE	
	Ы	0	0.017		20	■ SANI 40	0 (%)∎ 60	80					
	∠	и И	SOIL		20	♦ GRAVI 40	EL (%)♦ 60	80	(	GROUND ICE	3	1100	tt (tt
1143	MPL	MPL	DESCRIPTION	J	PLASTIC	м	.C.	Liquid	D	ESCRIPTION	J	USC	LT C
ā	SAI	5		•			<b>60</b>	<u> </u>	2		`		ā
0.0			GRAVEL (gp) - loose, trace organ	ics	20	40	00	_0V	·			GP 444	0.0
			SAND (sp) — poorly graded									 	
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-1.0													
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-2.0													
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	1	DE		ants Lta. '	•				.a w	COMPI	LEIE 90	/09/	
			renowknine N.W.I	•		LUGG	ED RA	FA	10	JWG NO.		Page 1	of 1

	TUK	( 00)	MUNITY GRANIII AR RESOURCES	ORIGINAL BOR	FHOLF NO	). m-	numbe	red		BOREHOLE No		242	$\gamma$
GNWT	- [	DEPT.	OF TRANSPORTATION	DRILLING EQU	PMENT: h	iand a	uqer			Project No: GN	WT		۲
SOUR	CEI	NO. 2	3, PAULATUK, NWT	UTM ZONE: 10	) N76917	00.00	E4590	25.00		ELEVATION 0.00	(m)		
SAMP	ΈE	TYPE	DISTURBED NO RECOVE	RY SPT			A-CA	SING	Ш	Shelby Tube	CORE		
	ш				20	SANI 40	> (%) ∎ 60	80					
( E	L	ž	SOIL		20	♦ GRAVI	1 (%)	90	- (	GROUND ICE			(ft)
H	Ы	PLE		NT			~		-	naanmaan	US	iC	Η
B	SAM	<b>SA</b>	DEPCKILIIO	LN			.u. •			JESCRIPTION			DEI
00	-			2100	20	40	60	80					0.0
0.0			SAND (sp) - poorly graded								6	•••	0.0
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			END OF BOREHOLE (0.9m)									<u></u>	-
-1.0													
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L			Tenowknine N.W.	1.		LUGG	ED BA	FA		DWG NO.	Pa	ge 1 c	of 1

PAULA	TU	< C0	MUNITY GRANULAR RESOURCES	ORIGINAL BORE	HOLE NO	): un-	-num	bere	ed		BOREH	DLE No. F	L90BF	23	
GNWT	-	DEPT	OF TRANSPORTATION	Drilling Equi	PMENT: h	and (	auger	•			Project	No: 5NWT			
SOUR	CE	NO. :	23, PAULATUK, NWT	UTM ZONE: 10	N76915	90.00	E45	905	0.00		ELEVAT	ON 0.00 (m	)		
SAMP	<u>1</u> E	TYPI	DISTURBED NO RECOVERY					CASI	NG		SHELBY T	JBE	CORE		
(m) H	E TYPE	E NO	SOIL		20 20	■ SAN 40 ♦ GRAN 40	40 (%) 60 /EL (% 60	) }◆ }	80 80		GROUN	D ICE		(0)	+ (tt)
DEPTI	SAMPL	SAMPI	DESCRIPTION		PLASTIC		W.C.		liquid i		DESCRI	PTION	USC		DEPI
	Ľ,				20	40	60	)	80						
0.0			<u>GRAVEL (gp) — loose, trace organic</u> SAND (sp) — poorly graded	:\$										• 0 ∞ ∞	0.0
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			END OF BOREHOLE (0.9m)										α	<u>∞</u>	
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														-5	ō.0
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-2.0															
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	1	L EB/	Engineering Consulta	nts Itd	<u> </u>	COMF		ON 1	)EPTH (	),9 m		COMPLETE ·	90/09/		
	-		Yellowknife NWT	LIVU,		LOGG	ED R	Y F	4		DWG NO		Page	1 of '	1
			1 VIIV (111111/ 11) (1)								12.10 110.		1.090		·

PAULA	TUK	CON	IMUNITY GRANULAR RESOURCES	ORIGINAL BOR	EHOLE NO	): un	-numt	ered		BOREHOLE No.	PL 90	)BH2	74
GNWT	- [	DEPT.	OF TRANSPORTATION	DRILLING EQUI	PMENT: h	and	auger		····· · · · ·	Project No: GN	VT		
SOUR	CE M	VO. 2	3, PAULATUK, NWT	UTH ZONE: 10	N76915	40.0	) E459	085.00		ELEVATION 0.00	(m)		
SAMP	LE	TYPE	DISTURBED NO RECOVER	r 🛛 SPT			A-(	CASING		Shelby Tube	CORE		
	ш	0			20	■ SA 40	ND (%) I	80					
<u> </u>	∣∠∣	л Ц	SOIL		20	♦ GR4 40	MEL (%) 60	◆ <u>80</u>		GROUND ICE		100	H (ff
EPT	MPL	AMPI	DESCRIPTION	J	PLASTIC		H.C.	LIQUID		DESCRIPTION		130	EPT
	SAI	75		1	⊢ 20	40							
0.0			GRAVEL (gp) - loose, trace organi	ics	20		~			· · · · · · · · · · · · · · · · · · ·	G	P 444	0.0
			SAND (sp) — poorly graded										
												0000	
												000	0
											s		2
Γ												2000	2
													o∟ >
													D
													0
			END OF BOREHOLE (0.9m)									000	<u>o</u>
-1.0			END OF BOALHOLE (0.5H)										
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													F
												i	
$\vdash$													-50
													-
-2.0													
													╞
									-				
	1	rR	Lngineering Consult	ants Ltd	•	CON	IPLETIC	ON DEPTH	0.9 m	COMPLE	ETE 90/0	)9/	
L			rellowknite N.W.T	•		LOG	ged B	Y FA		DWG NO.	1	Page 1	of 1

PAULA	TUK	CON	IMUNITY GRANULAR RESOURCES	ORIGINAL BORE	HOLE NO	): un-	numbe	ered		BOREHOLE No.	PL90BH	25
GNWT	- (	DEPT.	OF TRANSPORTATION	Drilling Equi	PMENT: h	iand a	uger			Project No: GNW	T	
SOUR	CEN	10. 2	3, PAULATUK, NWT	UTM ZONE: 10	N76915	25.00	E459(	)20.00		ELEVATION 0.00	(m)	
SAMP	LE	TYPE	DISTURBED NO RECOVERY					SING		SHELBY TUBE		- <u>1</u>
	Ы	0			20	■ SANL 40	7 (%)∎ 60	80				
<u>ع</u>	Σ	Ż Ш	SOIL		20	GRAVE 40	1 (%)∢ 60	80		GROUND ICE		U E
PTH	ЫП	Ę	DESCOIDTION		PLASTIC	L	С.	LIQUE		DESCRIPTION	USC	HL
H	SAM	<b>R</b>	DESCRIPTION		F		•			DISCIMI HON		H ۳
0.0			GRAVEL (ap) - loose trace organic	<u>.</u>	20	40	60	80			GP 44	1 0.0
			SAND (sp) - poorly graded								a ca	×
											000	x x
											8	χ
												Σ Σ
												x x
L						ļļ					SP 000	$\tilde{\mathbf{x}}$
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												20 20
												<u></u>
			END OF BOREHOLE (0.911)									
1.0												
			,									
												-
Γ												-5.0
												F
-2.0												
												L
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F												
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												F
	 I	<u>ן</u> הסי	Engineering Conquite	nta Itd			: : 		<u> </u>			
	J	לני		ints Ltu.					10.31		12 30/03/	1.61
			Ienowknile N.W.T.	•	<b></b>	LUGG	ED BA	FA		DWG NU.	Page	I of 1

PAULA	TUK	( CON	MUNITY GRANULAR RESOURCES	ORIGINAL BORE	HOLE NO	): un	-nur	mbe	red			BOREHO	LE No. PL	90BH	120	6
GNWT	- [	DEPT.	OF TRANSPORTATION	DRILLING EQUI	PMENT: h	and	auge	F				Project	No: GNWT			
SOUR	CE I	NO. 2	3, PAULATUK, NWT	UTM ZONE: 10	N76913	05.0	0 E4	583	90.0	0		ELEVATION	ON 0.00 (m)			
SAMP	<u>LE</u>	TYPE	DISTURBED NO RECOVERY			- 0		-CAS	SING		Ш	SHELBY TI	IBE	DRE		
	Ы	0			20	40		30 T	80			apothi				Ŧ
<u>ل</u> ۲	μ	и Ц	SOIL		20	♦ GK 40	WEL (	%}◆ 30	80			GROUN	DICE	1		н Н
EPTI	MPL	AMPI	DESCRIPTION	J	PLASTIC		M.C.		LK	aiuc		DESCRI	PTION			EPT
	SA	S			⊢ 20	40		50	80	-						
0.0	1		GRAVEL (gp) - loose, trace organi	ics										GP 📢	1	0.0
			SAND (sp) — poorly gradea											0	000 000	
														0	000 000	
														0	000 000	-
														0	000 000	
														SP 0	000	
														0	8	
														0		-
														0	8	
														0	000 000	
			END OF BOREHOLE (0.9m)												<u></u>	-
-1.0																
															ľ	-
											-					
-																-5.0
20																
<b>2.0</b>																
																_
-																-
							-									-
		FR.	A Engineering Consult	ants Itd	1	00	NPI F	TION	I DF	PTH n	.9 m		COMPLETE 9	/09/		
		ועני	Yellowknife NWT		•			BY	FA			DWC NO		Page	1.0	
			TCHOMVIIIC N'N'I	•		100	JULU	וט	17			10110 110.		Li uge	, , ,	

PAULATUK	COM	IMUNITY GRANULAR RESOURCES	ORIGINAL BORE	HOLE NO	): ur	-nur	nber	ed		BOREH	DLE No. PL	.90B	H2	7
gnwt – D	EPT.	OF TRANSPORTATION	DRILLING EQUI	PMENT: h	and	auge	er			Project	No: GNWT	·		
SOURCE N	10. 2	3, PAULATUK, NWT	UTM ZONE: 10	N76905	60.0	0 E4	5842	20.00		ELEVATI	<u>ON 0.00 (m)</u>	-		
SAMPLE T	IYPE	DISTURBED NO RECOVER					-CAS	ING		Shelby T	JBE	CORE		
г (m)	E NO	SOIL		20 20	40 ♦ GR 40	AVEL (	%) %)◆	80 80		GROUN	D ICE			(tt) H
DEPTH	SAMPL	DESCRIPTION	1 I	PLASTIC		H.C.		liquid 1		DESCRI	PTION	05	~	DEPTI
		CRAVEL (ap) - loose trace organi	<u>^</u>	20	40	. 6	50	80			·····	ne l		00
-1.0		<u>GRAVEL (gp) – loose, trace organi</u> SAND (sp) – poorly graded	cs									8		
Į Ľ	7R¥	Lugineering Consulta	ants Ltd.		00	APLE	IION	DEPTH	0.9 m	·····	COMPLETE 9	0/09/		
		Yellowknife N.W.T	•		LOG	GED	BY F	FA		DWG NO.		Pag	e 1 c	f1

PAULATUK	COM	MUNITY GRANULAR RESOURCES	ORIGINAL BOR	EHOLE NO	: un-	numb	ered			BOREHO	ILE No. PL	.90E	H2	8
GNWT - D	DEPT.	OF TRANSPORTATION	DRILLING EQUI	PMENT: h	and a	uger				Project	No: GNWT			
SOURCE N	₩0. 2	3, PAULATUK, NWI	UIM ZONE: 10	N76905	50.00	E458	270.0	<u>x</u>	Ē		UN 0.00 (m)	000		
SAMPLE		DISTURBED IN RECOVER			SANE	]AU ){%}	ASING		Ш	SHELBT IU		URE		
H (m) E TYPE	LE NO	SOIL		20 20	40 ♦ GRAVE 40	60 1 (%) 60	80 • 80	>		GROUN	D ICE	115		H (ff)
DEPTI	SAMP	DESCRIPTION	I	PLASTIC	M.	.C.	U	aiua —i		DESCRI	PTION			DEPT
00		GRAVEL (ap) - loose trace organ	ics	20	40	60	80	)				(P)		0.0
-1.0		GRAVEL (gp) - loose, trace organ SAND (sp) - poorly graded										<b>β</b> β		-5.0
4	ERA	Engineering Consult	ants Itd	<u> </u>	COMP		N DF	:: РТН Л	9 m		COMPLETE 9	 0/09.	/	
		Yallowknifa NWT	JULIO DUL		1000		/ [%			DWC NO				f 1
L		TEHOWVIIIE N.W.I	•		1000	ני ייי	rA			DING NO.		1-00		

OWNT     DEPT. OF TRANSPORTATION     DRELING EQUIPMENT: hand suger     Project two: GAWT       SQURCE NO. 23, PAULATUK, NNT     UTM ZONE: 10 N7690400.00 E458240.00     ELEVATION 0.06 (m)       SAMPLE TYPE     DISTURBED     No RECOVERY     ST       SAMPLE TYPE     DISTURBED     SOIL     20 40 60 and 20	PAULATUK COMMUNITY GRANULAR RESOURCES	ORIGINAL BOREHOLE NO	: un-numbered	BOREH	IOLE No. PL90	BH29	}
SOURCE NO. 23, PAULUK, NMT UTW ZONE: 10 N7690400.00 E458240.00 [EEVANDA 0.00 (m) SAMPLE TYPE DISTURBED NO. RECOVERY SPT BA-CASING CONSIDERATION OF BOREHOLE (0.9m) 0.0 CRAVEL (qp) - loose, trace organics CRAVEL (qp) - poorly graded PAULUE (0.9m) -1.0 END OF BOREHOLE (0.9m) -2.0 CRAVEL (qp) - source (0.9m) -2.0 CRAVEL (qp) - source (0.9m) -1.0 CRAVEL (qp) - source (0.9m)	GNWT - DEPT. OF TRANSPORTATION D	DRILLING EQUIPMENT: h	and auger	Projec	t No: GNWT		
SAMPLE TYPE       DISTURBED       \[] No RECOVERY       \[] SPT       \[] ACASNO       \[] SPLEY TUEE       CORE         (i)       [i]       [i]       [i]       SOIL       (i)       (i) <td>SOURCE NO. 23, PAULATUK, NWT</td> <td>UTM ZONE: 10 N76904(</td> <td>00.00 E458240.00</td> <td></td> <td>10N 0.00 (m)</td> <td></td> <td></td>	SOURCE NO. 23, PAULATUK, NWT	UTM ZONE: 10 N76904(	00.00 E458240.00		10N 0.00 (m)		
Image: Solution of the soluti	SAMPLE TYPE DISTURBED NO RECOVERY		A-CASING				
E         DESCRIPTION         20         40         60         80         DESCRIPTION         USC         E           0.0         GRAVEL (qp) - loose, troce organics         20         40         60         80         DESCRIPTION         00         00         00         00         00         00         00         00         00         00         00         00         00         00         00         00         00         00         00         00         00         00         00         00         00         00         00         00         00         00         00         00         00         00         00         00         00         00         00         00         00         00         00         00         00         00         00         00         00         00         00         00         00         00         00         00         00         00         00         00         00         00         00         00         00         00         00         00         00         00         00         00         00         00         00         00         00         00         00         00         00         00 </td <td></td> <td>20</td> <td>40 60 80 ♦ GRAVEL (%) ♦</td> <td>GROUN</td> <td>ND ICE</td> <td></td> <td>(ŧ)</td>		20	40 60 80 ♦ GRAVEL (%) ♦	GROUN	ND ICE		(ŧ)
B     S     DESCRIPTION     Point     LC     Doite     DESCRIPTION       0.0     CRAVEL (gp) - loose, trace organics     0.0     0     0     0       -     SAND (sp) - poorly graded     0.0     0     0     0       -     -     -     0     0     0       -     -     -     -     0.0     0       -     -     -     -     0.0     0       -     -     -     -     0.0     0       -     -     -     -     0.0     0       -     -     -     -     0     0       -     -     -     -     0     0       -     -     -     -     0     0       -     -     -     -     -     0       -     -     -     -     -     -       -     -     -     -     -     -       -     -     -     -     -     -       -     -     -     -     -     -       -     -     -     -     -     -       -     -     -     -     -     -       -     -		20	40 60 80			SC	Ē
0.0         CRAVEL (gp) - loose, trace organics         20         40         50         60         60         60         60         60         60         60         60         60         60         60         60         60         60         60         60         60         60         60         60         60         60         60         60         60         60         60         60         60         60         60         60         60         60         60         60         60         60         60         60         60         60         60         60         60         60         60         60         60         60         60         60         60         60         60         60         60         60         60         60         60         60         60         60         60         60         60         60         60         60         60         60         60         60         60         60         60         60         60         60         60         60         60         60         60         60         60         60         60         60         60         60         60         60         60	효 [종] DESCRIPTION	PLASIK	M.C. LIQUIL 	DESCR	IPTION		
	0.0 GRAVEL (ap) - loose, trace organic:	20 :s	40 60 80		GP	1	0.0
	-1.0 -2.0 -2.0	······································			φ γ		-5.0
							-
EBA Engineering Consultants Ltd COMPLETION DEPTH 0.9 m COMPLETE 90/09/	EBA Engineering Consulta	ints Ltd	COMPLETION DEPTH	40,9 m	COMPLETE 90/09	L }/	
Yellowknife N.W.T.	Yellowknife N.W.T	arvo uvu.	LOGGED BY FA	DWG NO	. P	jge 1 of	F 1

PAULA	TUK	( CO	MUNITY GRANULAR RESOURCES	RIGINAL BORE	HOLE NO	): ur	n-nu	mbei	red		BOREHO	DLE No. PL	90BHJ	30
GNWT	- [	DEPT	OF TRANSPORTATION D	Rilling Equi	PMENT: h	and	aug	er			Project	No: GNWT		
SOUR		NO. 1	23, PAULATUK, NWT	JTM ZONE: 10	N76902	80.0	10 E4	580	15.00	)		ON 0.00 (m)		
SAMP	LE	TYPI	DISTURBED NO RECOVERY						SING		I SHELBY T		DRE	
	ЪЕ	0	2011		20	4( 	) )	60	80		anouni			Ŧ
1 (m	μ	Z ЦЦ	SOIL		20	♦ GR 4(	AVEL	(%)◆ 60	80		GRUUN	DICE	120	(t)
- 11d	<b>NPL</b>	MPI	DESCRIPTION		PLASTIC		M.C.		LIQ	UID	DESCRI	PTION	030	EPT
B	SAI	5			⊢ 20	41	•	សា	80	+				
0.0			GRAVEL (gp) — loose, trace organic	s			,						GP 44	0.0
			SAND (sp) — poorly graded											2
	1												~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	
													 	0
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													000 00 00	0
F														0
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														o o
			END OF BOREHOLE (0.9m)											7
-1.0														
														-
-														-5.0
														F
-2.0														
														_
														╞
F														
														F
	]	EB	A Engineering Consulta	nts Ltd.		CO	MPLE	TION	DEP	'TH 0.9 I	n	COMPLETE 90	/09/	
			Yellowknife N.W.T.			LO	GGED	BY	FA		DWG NO.		Page 1	of 1

PAULA	TUK	CON	IMUNITY GRANULAR RESOURCES	ORIGINAL BORE	HOLE NO	: un-i	numbe	ered		BOREHO	LE No. PLS	OBH3	51
GN₩T	- [	DEPT.	OF TRANSPORTATION	DRILLING EQUI	PMENT: h	and au	ıger			Project	No: GNWT	·	
SOURC	CE I	NO. 2	3, PAULATUK, NWT	UTM ZONE: 10	N769069	0.00	E4578	370.00		ELEVATIO	)N 0.00 (m)		
SAMP	LE	TYPE	DISTURBED NO RECOVER					SING	<u> </u>	SHELBY TU	BE LCO	RE	
	Ы	0	0.017		20	40	60	80					
<u>ل</u>	$\succ$	EN	SOIL		20	GRAVE	1 (%)∢ 60	80		GROUNI	) ICE	1100	E)
PTH	<b>IPLE</b>	MPL	DESCRIPTION	Ţ	PLASTIC	M.	С.	LIQUI	5	DESCRI	PTTION	030	E d
B	SAN	R,	DESCRIPTION	1	<b>⊢</b>					2000110			
0.0			GRAVEL (ap) - loose, trace organi	cs	20	40		80				GP 44 4	0.0
			SAND (sp) - poorly graded									~~~~	
												~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	
		Į										0000	-
												~~~~	
$\vdash$												SP 0000	
												0000	
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			END OF BOREHOLE (0.9m)										2
-1.0													
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1													F
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													0.0
													-
-2.0													
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		ГŊ	A Engineering Consult	ants Ltd	•	COMP	'LEIIO	N DEPT	HU.9 m		COMPLETE 90	/09/	
			Yellowknite N.W.1	•		LOGG	ED BY	FA		DWG NO.		Page 1	of 1

CMUT - DET: OF TRANSPORTATION DET: 10 M2002 SOURCE NO. 23. PRULATUR, NMT UT ZONE: 10 M2602500 E457800 UEVENO.000 (mT SOURCE NO. 23. PRULATUR, NMT UT ZONE: 10 M2602500 E457800 UEVENO.000 (mT CONTENT OF BORENOLE (23.97)	PAULA	TUK		IMUNITY GRANULAR RESOURCES	ORIGINAL BORE	HOLE NO	: u	າ-ກັບ	imbei	red			BOREHOLI	ENo. PL9	OBH3	52
SOURCE NO. 23, PAULATUR, MYT I'TH ZONE: 10 X/560/250.00 E5/780.00 II DELAYTOR 0.00 (m) SAMPE TYPE Consultants Ltd. COMPLET 00 CF BOREHOLE (0.3m) COMPLET	GNWT	- [	DEPT.	OF TRANSPORTATION	DRILLING EQUIF	PMENT: h	bnc	aug	er				Project N	o: GNWT		
SAMPLE TYPE SAMPLE TYPE SOLUTION SOLUTI	SOUR	CEI	NO. 2	3, PAULATUK, NWT	UTM ZONE: 10	N769025	50.0	0 E4	1578	80.0	0		ELEVATION	1 0.00 (m)		
EBA Engineering Consultants Ltd.       COMPLETION DEPINION       COMPLETION DEPINION       COMPLETION DEPINION       Completion of the second sec	SAMP	LE	TYPE	DISTURBED NO RECOVERY					A-CAS	SING	r		Shelby Tubi		RE	
E La de Source for e sourc		Ы	0	0011		20	4(	ANU ( )	<b>60</b>	80			apainip	100		$\square$
EBA Engineering Consultants Ltd.     COMPLETE 90/09/       Complete 90/09/	- L (m	≥	ЕN	SOIL		20	● Gk 4(	AVEL )	(%) <b>●</b> 60	80			GROUND	ICE	120	(t) T
C       25 07       COMPLETION DEPTH 0.9 m       C	EPTF	MPL	AMPI	DESCRIPTION	J	PLASTIC		M.C.		U	QUID		<b>DESCRIP</b>	TION	030	EPT
0.0     GRAVEL (op) - loose, trace argonics     P     4.2     0.0       SAND (sp) - poorly graded     P     4.2     0.0        END OF BOREHOLE (0.3m)     P     0.0       -1.0     END OF BOREHOLE (0.3m)     P     0.0		S	S			→ 20	41	<b>_</b> ]	60	80						
EBA Engineering Consultants Ltd.	0.0			GRAVEL (gp) - loose, trace organi	cs										GP 444	0.0
-1.0 END OF BOREHOLE (0.9m) -1.0 END OF BOREHOLE (0.9m) -2.0 EDA Engineering Consultants Ltd. COMPLETE 90/09/ Vallowing for N W T		1		SAND (sp) — poorly gradea											~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	
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CAMP - DEPT, OF TRANSPORTATION OPLIATE COMPLETE North State Project No. COMPLETE SCALE NO. 23, PAULATUK, NMT UT ZONE: 10 M76050500 E45759000 EXEMPTON 0.00 (m) SAMPLE TYPE of SUBJECT DESCRIPTION OPENSION 0.00 (m) SAMPLE TYPE OF SUBJECT DESCRIPT	PAULATUK COMMUNITY GRANULAR RESOURCES	ORIGINAL BOR	EHOLE NO	un-numt	ered		BOREHOLE No.	PL90BI	H35	
SOURCE DO 23. PALLATUR, MAYT [UT ZONE: 10 AV6005300 E45790.00 ]] ELEXANDA 0.00 (m) SAMPLE TYPE Consultants Ltd. EBA Engineering Consultants Ltd. Yellowknife N W T	GNWT - DEPT. OF TRANSPORTATION	DRILLING EQUI	PMENT: ho	ind auger			Project No: GNWT			
SAMPLE TYPE SOURCED ON RECOVERY SIGN BACOUND CE SOURCE SOLL SOLL SOLL SOLL SOLL SOLL SOLL SOLL SOLL DESCRIPTION NARC 42 L00 DESCRIPTION SAND (sp) - poorly graded -1.9 END OF BOREHOLE (0.3m) -2.9 EBA Engineering Consultants Ltd. COMPLETEND CEPH 0.9 m COMPLETEND CEPH 0.9 m COMPLE	SOURCE NO. 23, PAULATUK, NWT	UTM ZONE: 10	N769053	0.00 E457	590.00		ELEVATION 0.00 (n	<u>n)</u>		
E       SOIL       DESCRIPTION       B       GROUND ICE       USC       E         DESCRIPTION       DESCRIPTION       DESCRIPTION       DESCRIPTION       DESCRIPTION       DESCRIPTION         00       GRAVEL (up) - boost, trace organics       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0 <td>SAMPLE TYPE DISTURBED</td> <td>OVERY 🔀 SPT</td> <td></td> <td>A-(</td> <td>CASING</td> <td>Ш</td> <td>Shelby Tube</td> <td></td> <td></td> <td></td>	SAMPLE TYPE DISTURBED	OVERY 🔀 SPT		A-(	CASING	Ш	Shelby Tube			
B       3       Coverting of the second of the seco		ION	20 20 PLASTIC	■ SAND (%) 40 60 GRAVEL (%) 40 60 M.C.	80 * 80 LIQUID	( T	GROUND ICE	USC		EPTH (ft)
0.0         CRAVEL (up) - loose, trace organics         20         9         60         90         00         00           SAND (sp) - poorly graded		ION	<b></b>			1				ā
END OF BOREHOLE (0.9m)  Completion of the system of the syst	00 CRAVEL (ap) - loose trace of	ranice	20	40 60	80			GP 14		0.0
EBA Engineering Consultants Ltd.       COMPLETION DEPTH 0.9 m       COMPLETE 90/09/         Vellowknife NWT.       LOGGED BY FA       DWG NO.       Poge 1 of 1		n)								5.0
Yellowknife N W.T. LOGGED BY FA DWG NO. Poge 1 of 1	EBA Engineering Cons	ultants Ltd		COMPLETI	ON DEPTH (	).9 m	COMPLET	E 90/09/	/	
	Yellowknife N	W.T.		LOGGED F	BY FA		DWG NO.	Pag	je 1 of	F 1

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PAULA	TUK	( CO	IMUNITY GRANULAR RESOURCES	ORIGINAL BORE	HOLE NO	: un	-nu	imbe	red			BOREHO	ENO. PL	90BH3	6
GNWT	- [	DEPT	OF TRANSPORTATION	Drilling Equi	PMENT: h	bnc	aug	er				Project I	No: GNWT		
SOUR	CE I	NO. 2	3, PAULATUK, NWT	UTH ZONE: 10	N769026	60.0	0 E4	4576	00.0	0		ELEVATIO	N 0.00 (m)		
SAMP	<u>'</u> LE	TYPE	DISTURBED NO RECOVERY					A-CA	SING			SHELBY TUE	BE C	ORE	rl
	Ч	0			20	∎ ¥ 40	NID (	74)∎ 60	80						$\overline{\mathbf{x}}$
	Σ	и И	SOIL		20	GR 40	AVEL	(%)◆ 60	80			GROUNL	) ICE		H (f
EPTH	MPLE	AMPL	DESCRIPTION		PLASTIC		M.C.		LK	aiuc		DESCRIF	TION	USC	EPTI
ð	SAI	5			⊢ 20		<b></b>	60	80	-					
0.0	$\top$		GRAVEL (gp) - loose, trace organi	¢5								-		GP 444	0.0
			SAND (sp) – poorly graded												
														0000	
														go 📖	>
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															<b>)</b>
															2
															2
			END OF BOREHOLE (0.9m)												
-1.0															
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╞															-5.0
															-
-2.0															
															L
															-
-		ł									1				
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											1				
		ĒB	A Engineering Consult	ants Ltd		CO	MPL	ETIO	N DE	PTH (	).9 m		COMPLETE 9	0/09/	
			Yellowknife N.W.T	·		LO	GGE	D BY	FA			DWG NO.	<u></u>	Page 1	of 1
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PAULA	тик	CON	IMUNITY GRANULAR RESOURCES	ORIGINAL BORE	HOLE NO	): u	n-nu	imbe	red			BOREHO	LE No. PLS	IOBH.	37
GNWT	- [	DEPT.	OF TRANSPORTATION	DRILLING EQUI	PMENT: H	and	aug	er				Project	No: GNWT		
SOUR	CEI	NO. 2	3, PAULATUK, NWT	UTM ZONE: 10	N76907	15.0	)0 E4	4574	80.0	0		ELEVATIO	)N 0.00 (m)		
SAMP	LE	TYPE	DISTURBED NO RECOVER	<u> </u>				A-CA	SING			jshelby tu	BE LCO	RE	
	Ы	0			20	∎ S 44	AND ( )	74)∎ 60	80						
<u>س</u>	Σ	N Ц	SOIL		20	♦GF 4	AVEL	(%)♦ <u>60</u>	80			GROUNI	) ICE	LICC	E T
EPTH	<b>IPLE</b>	MPL	DESCRIPTION	J	PLASTIC		M.C.		LK	סוטב		DESCRI	PTION	030	E
B	SAM	S		•			•	60		-					
0.0	-		GRAVEL (gp) - loose, trace organ	ics	20	4		00	00					GP 44	0.0
			SAND (sp) — poorly graded												
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															<b>D</b>
														8	
														~~~ ~~~	0
-														SP 000	0
														800 000	0 0
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														000	0
														000	<u>o</u>
-1.0															
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Γ														-	-5.0
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-2.0															
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		I FR	L A Engineering Consult	ante Itd	1 : :		)MPI	<u>:</u> הודז	N DF	<u>.</u> РТН ∩	1 <u>9</u> m		COMPLETE ON	∟ /09/	<u> </u>
		יעני		ranno nuu P	•		 		., UL 	U		DWC NO		, 00/   D 4	of 1
			Tenowkime N.W.	L .			VUL	וט ט	гA 			LUNG NO.		rage	011

PAULA	TUK	CON	IMUNITY GRANULAR RESOURCES	ORIGINAL BOR	HOLE NO	: un-	-numbe	red		BOREHOLE No.	PL90B	H38	3
GNWT	- D	)EPT.	OF TRANSPORTATION	DRILLING EQUI	PMENT: h	and a	uger			Project No: GNW	Л		
SOUR	CEN	10.2	3, PAULATUK, NWT	UTM ZONE: 10	N769143	35.00	E4571	10.00		ELEVATION 0.00	(m)		
SAMP	LE T	TYPE	DISTURBED NO RECOVER	Y XISPT			■ ACA	SING		SHELBY IVBE	U CORE		
	Ч	9	COLL		20	40	60 60	80					£
<i>u</i> ) +	μ	м Ц	SOIL		20	40	60	80	,	GROUND ICE	lusi	$\sim$	н Ц
EPI	ЧW	AMPI	DESCRIPTIO	N	PLASTIC	ŀ	I.C.	Liquid	Ι	DESCRIPTION			DEPT
	SA	S			20	40	60	80					
0.0			GRAVEL (gp) - loose, trace organ	nics							GP		0.0
-1.0			END OF BOREHOLE (0.9m)								\$2	88 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	-5.0
									1				
		EB	A Engineering Consul	tants Ltd		COM	<b>IPLETIO</b>	n depth (	0.9 m	COMPL	ETE 90/09	/	
			Yellowknife N.W.	T.		LOG	GED BY	í FA		DWG NO.	Pa	ge 1	of 1
						1				L			

PAULA	TUK		IMUNITY GRANULAR RESOURCES	ORIGINAL BORI	HOLE NO	): un-	-numb	ered		BOREHOLE No.	PL90BH	39
GNWT	- (	DEPT.	OF TRANSPORTATION	DRILLING EQUI	PMENT: h	and c	uger			Project No: GN	WT	
SOUR	CEI	NO. 2	3, PAULATUK, NWT	UTM ZONE: 10	N76913	60.00	E457	200.00	)	ELEVATION 0.00	) (m)	
SAMP	<u>LE</u>	TYPE	DISTURBED NO RECOVER	Y SPT				ASING	<u> </u>	SHELBY TUBE		
	E	0	~~		20	■ SAU 40	60	80				$\widehat{\mathbf{x}}$
<u>س</u>	Ϋ́	N U	SOIL		20	◆ GRA\ 40	/EL (%) 60	◆ 80		GROUND ICE	LICC	l (€
L HI	APLE	MPL	DESCRIPTION	J	PLASTIC	I	I.C.	LIQ	UID	DESCRIPTION		EPT
B	SAN	5		۲	H		÷ .		4			
0.0	+		GRAVEL (gp) - loose, trace organ	ics	2v	+0						0.0
			SAND (sp) — poorly graded								88	Ω Ω
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											8	30 00
												80 80
												88
╞											SP 00	8
											α α	ω
1												ω ω
												cco cco
												8
		1	END OF BOREHOLE (0.9m)									<b>≃</b> _
-1.0												
-												-5.0
												F
-2.0												
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		니 다 D	L Engineering Congult	anto Itd	1		וסו בדו	<u>וויי</u> או הבי	<u>:</u>   			I
		DĽID.	Vollowbrife NW7	ιαπιδ μια Γ	٠							1 .6 1
			Ienowknine N.W.	۱.		LUG	GED E	I FA		DWG NU.	Page	

PAULA	TUK	CON	IMUNITY GRANULAR RESOURCES	ORIGINAL BORE	HOLE N	): ш	n-num	nbere	ed		BOREHO	LE No. PL	90BH4	0
GNWT	- (	DEPT.	OF TRANSPORTATION	DRILLING EQUI	PMENT: I	nand	auger	r			Project	No: GNWT		
SOUR	CEI	NO. 2	3, PAULATUK, NWT	UTM ZONE: 10	N76912	25.0	0 E45	5723	0.00		ELEVATIO	)N 0.00 (m)		
SAMP	LE	TYPE	DISTURBED NO RECOVER	Y SPT			A-	-CASI	NG	[]	Shelby Tu		DRE	
	ш				20	■ S 4(	and (%) ) 6	)∎ 0	80					
۳ س	μ	E N(	SOIL		20	◆ GR 4(	AVEL (% ) 6	\$}◆ 0	80		GROUNI	) ICE	1100	f (ft
PTH	PLE	MPLI	ΝΕΩΩΙΟΨΙΟΝ	Ţ	PLASTIC		M.C.		LIQUID		DESCRI	OTTON	050	ЧΗ
B	SAM	S	DEPOVIL HOL	Y					<u> </u>		DUDOIM	1101		a
00	_		CRAVEL (ap) - loose trace organ	ics	20	4	) 6	0	80				GP 444	0.0
0.0			SAND (sp) - poorly graded	100										
-														
													0000	-
L													SP 0000	
													0000	
													0000	
														2
			END OF BOREHOLE (0.9m)											2
-1.0														
														-
$\vdash$														-50
														-
-2.0														
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		Dئا	Vollowing Consult Vollowing fo NW	ants Lla F	•					10.3 11	DHIC NO			
			Tenowkinne N.W.	1.			IVUED	וס			UNG NU.		roger	VI I

PAULA	ТЛК	COM	MUNITY GRANULAR RESOURCES	ORIGINAL BORI	HOLE N	0: u	n-numt	bered		E	OREHOLE No	. PLS	OBH4	1
GNWT	- D	EPT.	OF TRANSPORTATION	DRILLING EQUI	PMENT: I	hand	auger		•	F	Project No: G	NWT		
SOURC	ΈN	10. 2	3, PAULATUK, NWT	UTH ZONE: 10	N76911	140.0	0 E457	225.0	Û	[[	LEVATION 0.0	10 (m)		
SAMP	LE 1	IYPE	DISTURBED NO RECOVER	१४ 🛛 ऽम्प			A-(	CASING		SH	elby tube		RE	
	ш				20	■ \$ 4(	ND (%)∎ ) 60	80						
(m	۲	Σ	SOIL		20	♦ GR	AVEL (%)	♦ 80		GH	ROUND ICH	3		E)
H	Щ	믭		Т			<u>,</u>	 		DE	ICODIDMIA	л	USC	Η
EF 1	AMF	₹S	DESCRIPTION	N			m.c.		-	UĽ	IOCKIP HVI	N		Ы
					20	4	) 60	80					PP 1	00
0.0			SAND (sp) - poorly graded	11C5										0.0
-1.0			END OF BOREHOLE (0.9m)											
-2.0			A Engineening Congul	tonta Itd						0 ~			/00 (	
		EB'	A Engineering Consul	tants Ltd	.•	α	MPLETI	on de	PTH 0.	.9 m	COM	PLETE 90	/09/	
			Yellowknife N.W.	<u>T.</u>		LC	gged e	by Fa		D	WG NO.		Page 1	of 1

PAULATU	IK CO	MUNITY GRANULAR RESOURCES	ORIGINAL BOR	EHOLE NO	: un-I	numbe	red		BOREHOLE No.	PL90	BH4	2
GNWT -	DEPT	OF TRANSPORTATION	DRILLING EQU	PMENT: h	and au	iger			Project No: GN	WT		
SOURCE	NO. 2	23, PAULATUK, NWT	UTH ZONE: 10	N769046	65.00	E4572	05.00		ELEVATION 0.00	) (m)		
SAMPLE	TYPE	DISTURBED NO RECOVER	Y 🛛 SPT			A-CA	SING		Shelby Tube	CORE		
L				20	SAND 40	o (%) ∎ 60	80					
	E Z	SOIL		20	GRAVE	1 (%)♦ 50	80	(	GROUND ICE			ŧ,
DTH DI	빌딡	νεασιστιο	T	PLASTIC		<u>c</u>	LKOLUD	г	RECEIPTION		ISC	HE
DEI	SAM	DESCRIPTION	N			•		1				B
	1	CPAVEL (ap) - loose trace organ	nice	20	40	60	80			G	P 4 4 4	0.0
0.0		SAND (sp) - poorly graded									0000	
											88888 88888 88888888888888888888888888	-
										s		-
												_
-1.0		END OF BOKEHULE (0.9m)										
												-
-												-5.0
												-
-2.0												
												-
-												
												_
	EB	A Engineering Consul	tants Ltd	1.	COM	PLETIO	N DEPTH	0.9 m	COMP	LETE 90/	09/	
	22	Yellowknife N.W.	Т.		LOG	GED BY	FA		DWG NO.		Page 1	of 1
L		1 110 1111110 11111			1				L			

PAULAT	TUK	COM	MUNITY GRANULAR RESOURCES	ORIGINAL BORE	HOLE NO	: un-	-numb	ered		BOREHOLE	No. PLS	IOBH4	3
GNWT	- C	EPT.	OF TRANSPORTATION	DRILLING EQUI	PMENT: h	and o	uger			Project No:	: GNWT		
SOURC	E١	10. 2	3, PAULATUK, NWT	UTM ZONE: 10	N769184	5.00	E457	020.00		ELEVATION	0.00 (m)		
SAMPL	E	TYPE	DISTURBED NO RECOVER	r ⊠spt			<b>■ ∧</b> - <i>Cl</i>	ASING	[]	Shelby Tube		RE	
	ய				20	■ SAN 40	10 (%3)∎ 60	80					
E.	۲	ž	SOIL		20	► GRA\ 40	/EL (%)∢ 60	80		GROUND 1	ICE	1100	ŧ
표	Ч	PL	ΝΕΟΟΠΟΨΙΛΙ	Ţ	PLASTIC		40	101	in	חדפמסוסת		USC	Η
DEI	SAM	SAN	DESCRIPTION	N			•			DECOM I.			B
0.0		<del></del>	CRAVEL (ap) loose trace organ	<u></u>	20	40	60	80		<u></u>		GP 444	0.0
-1.0			GRAVEL (gp) - loose, trace organ SAND (sp) - poorly graded END OF BOREHOLE (0.9m)									3 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	
-2.0													-5.0
						1							
		EB	A Engineering Consult	ants Ltd		COM	PLETIC	)N DEP	TH 0.9 m	n Ci	OMPLETE 90	/09/	
			Yellowknife NW	n		LOG	GED B	Y FA		DWG NO.	<u></u>	Page 1	of 1
			1 11 11 11 11 11 11 11 11 11 11 11 11 1	· ·									

PAULATUK COMMUNITY GRANULAR RESOURCES	ORIGINAL BORE	HOLE NO	: un-r	numbe	red		BOREHOLE No.	PL90	BH4	4
GNWT - DEPT. OF TRANSPORTATION	DRILLING EQUIF	MENT: h	and au	iger			Project No: GN	WT		
SOURCE NO. 23, PAULATUK, NWT	UTM ZONE: 10	N76912	50.00	E4570	70.00		ELEVATION 0.00	) (m)		
SAMPLE TYPE DISTURBED NO RECOVER	n Kispi			A-CA	SING		HELBY TUBE			
		20	40	60	80					$\Rightarrow$
		20	GRAVE	L (%) ● 60	80	ե	ROUND ICE		ec	+ +
[ 훕 眞 로] DESCRIPTION	I I	PLASTIC	M.	C.	liquid	DI	ESCRIPTION		SU	EPT
		20	40	60	80					Δ
0.0 GRAVEL (gp) - loose, trace organ	nics		40		<u> </u>		·····	GF	444	0.0
-1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0 -1.0								3		-5.0
EBA Engineering Consult	tants Ltd.	•	COMP	PLETIO	N DEPTH (	0.9 m	COMP	LETE 90/0	9/	
Yellowknife N.W.	Γ		LOGG	ed by	FA	D	WG NO.	[	Page 1	of 1

PAULA	TUK	CON	IMUNITY GRANULAR RESOURCES	ORIGINAL BORI	THOLE NO	0: u	n-nu	ımbe	red			BOREHOLE No.	PL90	BH4	5
GNWT	- [	DEPT.	OF TRANSPORTATION	DRILLING EQUI	PMENT: 1	папа	l aug	er				Project No: GNWT			
SOUR	CE 1	NO. 2	3, PAULATUK, NWT	UTM ZONE: 10	N76911	30.	00 E4	4570	70.0	0		ELEVATION 0.00 (	m)		
SAMP	LE	TYPE	DISTURBED NO RECOVERY	′ <u> </u>				A-CA	SING	T		SHELBY TUBE			
	Ч	0	0.0.17		20	4	2010 ( 0	60 60	80						$\odot$
<u>س</u>	Σ	N H	SOIL		20	♦G 4	RAVEL 0	{%} <b>●</b> 60	80			GROUND ICE		20	H (f
PTH	<b>IPLE</b>	MPL	DESCRIPTION	I	PLASTIC		M.C.		LK	UID		DESCRIPTION	0	50	ЕРП
H H	SAN	S	DESCRIPTION		<u> </u>		•			-					ā
0.0	$\vdash$	ļ	GRAVEL (ap) - loose, trace organi	cs		4	0	60	80				GP	44.4	0.0
			SAND (sp) - poorly graded											<b>~~~</b>	
-1.0			END OF BOREHOLE (0.9m)										5		-5.0
															-
															F
		<u>г</u> р	A Engineering Consult	anto Itd	1 : :	1~	<u>ו</u> שער וערו	FTIO		<u>.</u> ח ווזק	Q m		<u></u> τ οη /η	 a /	. I
		יעם		απιδ μία '	•	H							- 30/0		
L			<u>renowknile</u> N.W.1	•			JGGEL	D RA	FA			DWG NO.	L F	age 1	of 1

OWN - DEFL OF TRANSPORTION       DELLINE DUPMENT: lond auger       Project two: OWN         SOURCE NO. 23, FAULATIN, INF       UTW ZONE: TO AVRSOCEIS.00 E456005.00       ELEVATION 0.000 (m)         SAMPLE TYPE       DESCRIPTION       UTW ZONE: TO AVRSOCEIS.00 E456005.00       ELEVATION 0.000 (m)         SAMPLE TYPE       DESCRIPTION       Image: Computer Comp	PAULA	ruk	COM	IMUNITY GRANULAR RESOURCES	ORIGINAL BOR	EHOLE NO	): un	-numb	ered		B	OREHOLE No.	PLS	IOBH4	6
SOURCE NO 23, PAILATUK, NOT UT ZONE: TO VEGOSISCO CASSOC. SAPPLE TYPE DISTURBED IN DESCRET SO TO VEGOSISCO CASSOC. SAPPLE TYPE DISTURBED IN DESCRET SO TO VEGOSISCO CASSOC. ELLANDO ADD (m) SAPPLE TYPE DISTURBED IN DESCRET SO TO VEGOSISCO CASSOC. ELLANDO ADD (m) SAPPLE TYPE DISTURBED IN DESCRET SO TO VEGOSISCO CASSOC. ELLANDO ADD (m) SAPPLE TYPE DISTURBED IN DESCRET SO TO VEGOSISCO CASSOC. ELLANDO ADD (m) SAPPLE TYPE DISTURBED IN DESCRET SO TO VEGOSISCO CASSOC. ELLANDO ADD (m) SAPPLE TYPE DISTURBED IN DESCRET SO TO VEGOSISCO CASSOC. ELLANDO ADD (m) SAPPLE TYPE DISTURBED IN DESCRET SO TO VEGOSISCO CASSOC CONTACT ON DESCRET SO TO VEGOSISCO CASSOC SOURCE AND CASSOC. ELLANDO ADD (m) DESCRIPTION SAPPLE TYPE DISTURBED IN DESCRET SO TO VEGOSISCO CASSOC CONTACT ON DESCRET SO TO VEGOSISCO CASSOC CONTACT ON DESCRET SO TO VEGOSITICS CONTACT	GNWT	- C	EPT.	OF TRANSPORTATION	DRILLING EQUI	PMENT: h	and	auger			Р	roject No: GNI	NT		
SAMPLE TYPE DISTRIBUTION IN CONCENT STREED IN ORCONDUCTION STREED IN ORCONDUCTION IN CREATER STREED IN CREAT	SOURC	ΈN	10. 2	3, PAULATUK, NWT	UTH ZONE: 10	N76906	15.00	) E456	905.0	00	E	LEVATION 0.00	(m)		
Image: Solution of the solution	SAMPL	E	TYPE	DISTURBED NO RECOVER	Y 🛛 SPT			A-0	ASING	;	SHE	LBY TUBE	CO	RE	
E       SOIL       20 0000 (0000)       GROUND ICE       USC       E         DESCRIPTION       20 0000 (0000)       DESCRIPTION       20 0000 (0000)       DESCRIPTION       000         000       GRAVEL (30) - hoose, trace organics       20 0000 (0000)       0000 (0000)       0000 (0000)       0000 (0000)         -10       END OF BOREHOLE (0.5m)       END OF BOREHOLE (0.5m)       0000 (0000)       0000 (0000)       0000 (0000)         -20       EBA Engineering Consultants Ltd. Yellowknife N.W.T.       COMPLETEN DEPH 0.9 m       COMPLETE 90/09/		Ы				20	■ SA 40	ND (%) 60	80						
End       End       DESCRIPTION       Preside       under solution       DESCRIPTION       USC       End	_۳	Σ	ž u	SOIL		20	GRA 40	VEL (%) 60	♦ 80	,	GR	OUND ICE		1100	tt.
B       B       B       Discourt for the point of t	РТН	ЫЕ	ЧЫ	חדפרסוסייוחי	VI.	PLASTIC		M.C.	Ľ	KUID	DF	SCRIPTION		USC	ЧЦ
0.0         GRAMEL (ap) - hoose, trace organics         0.0         0.0         0.0           SAND (sp) - poorly grided         0.0         0.0         0.0         0.0           -1.0         END OF BOREHOLE (0.3m)         0.0         0.0         0.0         0.0           -2.0         EBA Engineering Consultants Ltd. Yellowknife N.W.T.         COMPLETE 90/02/ LICOCED BY FA         COMPLETE 90/02/ LICOCED BY FA         COMPLETE 90/02/ LICOCED BY FA         ComPLETE 90/02/ LICOCED BY FA         Page 1 of 1	H H	SAN	R		Ň			•			DП	oom non			B
EBA Engineering Consultants Ltd. Yellowknife N.W.T.	0.0			GRAVEL (ap) - loose, trace organ	lics	20	40	<u>60</u>	80	>		·		GP 444	0.0
-1.0 END OF BOREHOLE (0.9m) -1.0 END OF BOREHOLE (0.9m) -2.0 EBA Engineering Consultants Ltd. Yellowknife N.W.T. COMPLETE 90/00/ DOGED BY FA DOWN NO. Poget of 1				SAND (sp) - poorly graded										0000	
-2.0 -2.0 EBA Engineering Consultants Ltd. Yellowknife N.W.T. COMPLETE N DEPTH 0.9 m COMPLETE 90/09/ Page 1 of 1	-1.0			END OF BOREHOLE (0.9m)										2000 2000 2000 2000 2000 2000 2000 200	
EBA Engineering Consultants Ltd. Yellowknife N.W.T. COMPLETION DEPTH 0.9 m LOGGED BY FA DWG NO. Page 1 of 1	-2.0														-5.0
EBA Engineering Consultants Ltd.COMPLETION DEPTH 0.9 mCOMPLETE 90/09/Yellowknife N.W.T.LOGGED BY FADWG NO.Page 1 of 1															
Yellowknife N.W.T. LOGGED BY FA DWG NO. Page 1 of 1		]	EBÆ	A Engineering Consult	ants Itd	•	CON	<b>IPLETI</b>	ON DE	EPTH 0.	9 m	COMPL	ETE 90,	/09/	
	}			Yellowknife N.W.	Г.		LOG	GED B	Y FA		DW	IG NO.	·,	Page 1	of 1
PAULA	TUK	CON	IMUNITY GRANULAR RESOURCES	ORIGINAL BORI	EHOLE NO	): un	-num	ber	ed		BOREH	OLE No. PL	90BH4	47	
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GNWT	- [	)EPT.	OF TRANSPORTATION	drilling equi	PMENT: h	and	auger				Project	: No: GNWT			
SOUR	CE N	10. 2	3, PAULATUK, NWT	UTH ZONE: 10	N76919	15.0	0 E45	638	5.00		ELEVAT	10N 0.00 (m)			
SAMP	<u>LE</u>	TYPE	DISTURBED NO RECOVERY	SPT 🔀			A-	CAS	ING		SHELBY T	UBE	)re		
	ш	0			20	40	ND (%) 60	) )	80						
<u> </u>	Σ	ž u	SOIL		20	♦ GR/ 40	WEL (% 60	} <b>♦</b>	80		GROUN	ID ICE	LICO	t (tt	
EPT	MPL	AMPL	DESCRIPTION		PLASTIC		M.C.		LIQUI	D	DESCRI	PTION	USC	E	
	SAI	5			⊢ 20	40		 )	 80						
0.0			GRAVEL (gp) - loose, trace organic	CS				<u>.</u>		-			GP 44	0.0	
-1.0			<u>GRAVEL (gp) - loose, trace organic</u> SAND (sp) - poorly graded										6 4 4 7 6 7 4 7 6 7 6 6 7 6 7 7 6 7 6 7 7 6 7 6 7 7 7 7	u 0.0 p p p p p p p p p p	
		EB/	Engineering Consulta	nts Ltd	<del> </del>	CON	(PLETI	ON	DEPTI	H 0.9	m	COMPLETE 90	/09/	_ <u>_</u>	
			Yellowknife NWT	LIVE LIVE			CED C	RY F	Δ		DWC NO		Page 1	of 1	
L				•		1			<u>~</u>				1. 490 1		

PAULA	TUK	COM	MUNITY GRANULAR RESOURCES	ORIGINAL BOR	EHOLE NO	: un-	numb	ered		BORE	IDLE No. PL	90BH	48
GNWT	- D	EPT.	OF TRANSPORTATION	DRILLING EQUI	PMENT: h	and a	uger			Projec	t No: GNWT		
SOUR	CE N	10. 2	2, PAULATUK, NWT	UTH ZONE: 10	) N769232	25.00	E456	540.0	נ	ELEVA	NON 0.00 (m)		
SAMP	'LE 1	TYPE	DISTURBED NO RECOVER	१४ 🛛 ऽम्प			<b>A</b> C	asing		SHELBY	TUBE 🚺 (	ORE	
	L				20	■ SAN 40	D (%)∎ 60	80					
(Ľ)	区	Σ	SOIL		20	GRAV	EL (%)•	80		GROU	ND ICE		(ft)
PTH	믭	린	ΠΡΟΟΤΟΦΙΟ	M	PLASTIC	 		10		DECCE	IDTION	USC	РТН
B	SAM	₹S	DEPCKILIOI	N			•		-	DEDCI	II HON		DE
00	$\left\{ \right\}$		CRAVEL (ap) - loose trace organ	nics	20	40	60	80				GP 44	1 0.0
0.0		Ì	SAND (sp) - poorly graded	1103									×
-1.0			END OF BOREHOLE (0.9m)									888888888888888888888888888888888888888	8 8 8 8 8 8 8 8 8 8 8 8 8 8
													5.0
-2.0													-
	]	EBA	A Engineering Consult	tants Ltd	.•	COM	PLETIC	n def	PTH 0.9	m	COMPLETE S	0/09/	
1			Yellowknife N.W.	T.		LOGO	GED BY	í FA		DWG NO	).	Page	1 of 1

	TIK	00	MUNITY GRANULAR RESOURCES	ORIGINAL BOR	FHOLE NO	): un-numt	ered		BOREHOLE No.	PIQ	OBH4	.0
GNWT	- [	DEPT.	OF TRANSPORTATION	DRILLING EQUI	PMENT: H	and auger			Project No: GN	VT LJ		
SOUR	CEN	10. 2	2, PAULATUK, NWT	UTH ZONE: 10	N76924	25.00 E456	100.00		ELEVATION 0.00	(m)		
SAMP	LE '	TYPE	DISTURBED NO RECOVER	Y 🔀 SPT		A-(	ASING		SHELBY TUBE	COF	RE	
	ш				20	■ SAND (%) 40 60	80					
E.	Σ	Х Ш	SOIL		20	♦ GRAVEL (%) 40 50	◆ 80	(	GROUND ICE			H (ft
PTH	PLE	MPL	DESCRIPTION	J	PLASTIC	M.C.	LIQUID	D	ESCRIPTION		050	Ш
B	SAM	A2		1				Ľ				ā
0.0	$\left  - \right $		GRAVEL (gp) - loose, trace organ	ics		40 50	00				GP 444	0.0
			SAND (sp) — poorly graded								 	
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-1.0												
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\vdash								-				-5.0
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												1
-2.0												1
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	J	r RI	A Engineering Consult	ants Ltd	•	COMPLETIC	IN DEPTH C).9 m	COMPL	LIE 90/	/09/	
			rellowknite N.W.	•		LOGGED B	Y FA		DWG NO.		Page 1	of 1

PAULA	TUK		IMUNITY GRANULAR RESOURCES	ORIGINAL BORE	HOLE N	0:	un-n	umbi	ered			BOREHO	LE No. P	L90BH5	0
GNWT	- (DEPT.	OF TRANSPORTATION	DRILLING EQUI	PMENT:	han	d au	ger				Project	No: GNWT		
SOUR	CEI	NO. 2	2, PAULATUK, NWT	UTM ZONE: 10	N7692	390	.00 [456	050.1	00		ELEVATIO	N 0.00 (m)) 	
SAMP	LE	TYPE	DISTURBED NO RECOVER	Y 🛛 SPT				AC/	ASING	;	Ш	Shelby Tu	BE	CORE	
	ш				20		sand 40	(%)∎ 60	80	>					
ε.	TYF	ž	SOIL		20	•	GRAVEL 40	. (%)∢ 60	8		I	GROUNI) ICE		E
H	PLE	μΓ		J	PLASTIC		M			ININ	1	TRACEIL	DTTO N	050	E
B	SAM	SA	DESCRIPTION	N			•				1	J BOOMI	TION		B
00			CDAVEL (ap) loope trace organ	ico	20		40	60	8	0				GP A A	0.0
0.0			SAND (sp) — poorly graded												
														~~~~	
L														SP 0000	
														~~~~	þ
															2
															2 2
														000	2
			END OF BOREHULE (0.9m)												
-1.0															
															F
-															-5.0
									-						
															F
-2.0															
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		ĘВ	A Engineering Consult	tants Ltd	.•	ľ	COMP	ιεnc	jn D	FLIH (.9 m		COMPLETE	90/09/	
			Yellowknife N.W.	ľ		l	_0GG	ED B	Y FA			DWG NO.		Page 1	of 1

PAULA	TUK	CON	MUNITY GRANULAR RESOURCES	ORIGINAL BORE	HOLE	NO:	HTF	21				BOREHOLE N	lo. PLS	OTPO	1
GNWT	- (DEPT.	OF TRANSPORTATION	EXCAVATING EC	UIPM	ENT:	han	d toc	ls			Project No:	GNWT		
SOUR	CEI	NO. 2	2, PAULATUK, NWT	UTM ZONE: 10	N769	9984	0.00) E45	666	0.00		ELEVATION 1	2.10 (m)		
SAMP	LE	TYPE	DISTURBED NO RECOVERY	SPT				<u> </u>	CASI	NG		Shelby Tube	00	RE	
	E				2	20	■ SAM 40	10 (%) 60		80					
(E)	TΥΡ	2 Z	SOIL		-	*	GRA	/EL {%	}♦	80		GROUND IC	E		E
王	Щ	ЫЧ	DECODEDION	-		<u></u>	+0	00		100		กาลสุกเกติน		USC	臣
E	AMF	SAM	DESCRIPTION		PLASI	IIC		₩.L. -●				DESCRIPTION)N		DEI
	Ľ				2	20	40	60)	80					
0.0			SAND (SP) - some gravel, trace fi	nes,										0000	0.0
			 Standard Proctor moisture/dens 	ity										~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	
			relationship 1815kg/m3 at 11.8%	moisture										0000	
														0000	
															1
														0000	×
F						•								SP 0000	
															} -
														000	5
														~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	5
-1.0											1			<u>~~</u>	<b>&gt;</b>
														000	2
			END OF IEST PIL (1.1m)												
											Į				
-															50
															-5.0
-2.0											1				
															-
															╞
-															
						-									
															-
	1_	 	Frainconing Concell	onto TLJ					<u>   </u>		<u> </u>	100			
		гŊ	A Engineering Consult	ants Lta	٠		COM	IFLE	IUN	DEPTH	i.i m		MPLEIE 90	/08/	<u>.                                    </u>
			rellowknite N.W.T	•			LOG	GED	BY F	RN		DWG NO.		Page 1	of 1

PAULA	TUK		IMUNITY GRANULAR RESOURCES	ORIGINAL BOR	EHOLE NO	: HTP2	2			BOREHOLE No.	PL90TPC	)2
GNWT	- [	DEPT.	OF TRANSPORTATION	EXCAVATING E	QUIPMENT	hand	tools			Project No: GNW	T	
SOUR	CE I	NO. 2	2, PAULATUK, NWT	UTM ZONE: 10	N769299	2.00	E4567	70.00		ELEVATION 9.30	(m)	
SAMP	LE	TYPE	DISTURBED NO RECOVER	Y 🛛 SPT			A-CA	SING		) shelby tube [	CORE	
	ш				20	SAND 40	) (%) ∎ 60	80				
E	ΥP	2 N	SOIL			GRAVE	1 (%) ♦	00		GROUND ICE		E
E	Ш	PLE		. 7	20	40			-	DHAADHDMAN	USC	듣
EP	AMF	SAM	DESCRIPTION	N		M.	C.			DESCRIPTION		B
	S				20	40	60	80				
0.0			SAND (SP) — trace fines, medium	i to fine							8	o ^{0.0}
			granea, amorniy gracos, molec								000	0
											000	0
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		1										xo xo
												ກ ກ
-1.0			END OF TEST PIT (1.0m)		-							
1												-
F												-5.0
												-
-2.0												
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-												
												-
-			L A Engineering Concul-	tonta Tta								
		ĽВ	A Engineering Consul	ianis Lio T	ι.				ч I.U m		T 20/08/	
			iellowknite N.W.	1.		LOGG	ed by	RN	<del></del> .	DWG NO.	Page	1 of 1

	TUK	CON	MUNITY GRANULAR RESOURCES	ORIGINAL BORI	EHOLE NO	): HTP3		BOREHOLE No.	PL90TP03
GNWT	- [	EPT.	OF TRANSPORTATION	EXCAVATING E	QUIPMENT	: hand tools		Project No: GNWT	
SOURC	CE N	10. 2	2, PAULATUK, NWT	UTH ZONE: 10	N76931	10.00 E4567	60.00	ELEVATION 10.50	(m)
SAMP	LE	TYPE	DISTURBED NO RECOVERY	SPT		A-CA	SING	SHELBY TUBE	CORE
-					20	■ SAND (%) ■	80		
(E	Ц	g	SOIL		20	♦ GRAVEL (%) ♦		GROUND ICE	(E)
표	ш	PLE		r		40 60	00	DRADIDAIAN	USC 물
DEP	AMP	SAM	DESCRIPTION		PLASTIC	M.C.	LIQUID	DESCRIPTION	Ē
	S				20	40 60	80		
0.0			VTOPSOIL SAND AND SILT (SP-ML) - trace a						0.0
			moist	1 4 4 6 1,					
			- Standard Proctor moisture/dens	ity moisture					
			relationship 2000 kg/m3 at 10.0%	moisture		_			
ļ					•				ML-37
Γ									
1	1								
			END OF TEST PIT (0.7m)						
[1.0									
Γ									-5.0
-2.0									
F									
		ER	A Engineering Consults	ants Ltd		COMPLETIO	N DEPTH 0.1	7 m COMPLET	E 90/08/
			Yellowknife NWT		•	LOCCED BY	' RN	DWG NO	Page 1 of 1
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FAULATUN COMMUNITE GRANULAR RESOURCES	Original Borehole	NO: I	1124				BOREHOLE No. PI	_90TP0	4
GNWT - DEPT. OF TRANSPORTATION	EXCAVATING EQUIPM	ENT: H	iand t	ools			Project No: GNWT		
SOURCE NO. 22, PAULATUK, NWT	UTM ZONE: 10 N769	92810	.00 E4	1568	60.00	<u> </u>	ELEVATION 7.40 (m)		
SAMPLE TYPE DISTURBED NO RECOVERY				A-CAS	SING	Ш:	SHELBY TUBE		
	2	20	sand () 40	76) ■ 60	80				
ε ε ε soll	2	20	GRAVEL 40	(%)♦ <u>60</u>	80	(	GROUND ICE		Ш Т
	PLAS	TIC	M.C.		liquid	Γ	ESCRIPTION	030	EPI
		20	<b>-</b>	60	 80				
0.0 SAND (sp) - poorly graded, dry		20	+0	00	02				0.0
									-5.0
EBA Engineering Consulta	ants Ltd.	C	OMPL	ETION	DEPTH	0.9 m	COMPLETE	90/08/	
Yellowknife N.W.T.	•	L	OGGE	) BY	RN		DWG NO.	Page 1	of 1

PAULA	TUK	( CON	IMUNITY GRANULAR RESOURCES	ORIGINAL BORE	HOLE NO	: HTP5				BOREHOL	E No. PLS	OTPC	15
GNWT	- [	DEPT.	OF TRANSPORTATION	EXCAVATING E	QUIPMENT	hand	tools			Project N	o: GNWT		
SOUR	CEI	NO. 2	2, PAULATUK, NWT	UTH ZONE: 10	N769284	5.00	E4569	10.00		ELEVATION	N 7.50 (m)		]
SAMP	LE	TYPE	DISTURBED NO RECOVER	Y 🛛 SPT			A-CA	SING	<u> </u>	Shelby Tub		RE	
(m)	TYPE	ON 3	SOIL		20	SANU 40 GRAVE	(%)∎ 60 L (%)● 50	80 80		GROUND	ICE		(ŧ)
DEPTH	AMPLE	SAMPLI	DESCRIPTION	1	PLASTIC	M.	C.	LIQUID	]	DESCRIP	TION	USC	DEPTH
	S I	Ŭ,			20	40	60	80					00
-1.0			END OF TEST PIT (0.9m)									888888888888888888888888888888888888888	
		EB	A Engineering Consult	ants Ltd		COMP	LETIOI	N DEPTH (	).9 m		COMPLETE 90	/08/	
			Yellowknife NW1	p	•	1000		RN				Pone 1	
				L •		2000	_0 01			500 10.		1. 490	<u> </u>

PAULATU	IK COI	IMUNITY GRANULAR RESOURCES	ORIGINAL BORI	HOLE NO	): HTP	26	-			BOREHO	LE No. PL	90TP0	6
GNWT -	DEPT	OF TRANSPORTATION	EXCAVATING EC	UIPMENT	F: han	d tools	\$			Project	No: GNWT		
SOURCE	NO. 2	2, PAULATUK, NWT	UTM ZONE: 10	N76928	00.00	E456	520.0	0		ELEVATIO	N 6.50 (m)		
SAMPLE	. TYPE	DISTURBED NO RECOVER	Y 🛛 SPT			<u> </u>	asing			SHELBY TU	BE CO	DRE	
L				20	■ SAN 40	10 (%)∎ 60	80						
(E)	IJ2	SOIL		20	♦ GRAN	/EL (%)∢ 60	80			GROUNI	) ICE		(ff
HL	비물		T	DIACTIC	<del></del>	<u></u>				NEGODIE	MIAN	USC	HH
DEP	SAN	DESCRIPTION	N			<b></b> .				DFOCUIL	TION		Ы
	_			20	40	60	80						0.0
-1.0		SAND (sp) — trace silt, uniformly graded, dry END OF TEST PIT (1.0m)										888 888 888 888 888 888 888 888	
-2.0													-5.0
	EB	A Engineering Consult	tants Ltd		CON	IPLETIC	ON DI	EPTH 1	.0 m		COMPLETE 9	0/08/	
		Yellowknife N.W.	T.		LOG	GED B	Y RN			DWG NO.	•	Page 1	of 1
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CNWT - DEPT. OF TRANSPORTATION       EXCAVATING EQUIPMENT: D8 CAT       Project No: GNWT         SOURCE NO. 22, PAULATUK, NWT       UTM ZONE: 10 N7692800.00 E456740.00       ELEVATION 12.00 (m)         SAMPLE TYPE       DISTURBED       NO RECOVERY       SPT       A-CASING       SHELBY TUBE       C         (E)       (E)       (E)       SOIL       20       40       60       80       60       80         (E)       (E) </th <th>ORE</th> <th></th>	ORE	
SOURCE NO. 22, PAULATUK, NWTUTM ZONE: 10 N7692800.00 E456740.00ELEVATION 12.00 (m)SAMPLE TYPEDISTURBEDNO RECOVERYSPT $A$ -CASINGIII SHELBY TUBEC $(E)$	ORE	
SAMPLE TYPE     DISTURBED     NO RECOVERY     SPT     A-CASING     SHELBY TUBE     CC       (E)     (E) <td></td> <td></td>		
$\begin{array}{c c} \begin{array}{c} \hline \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ $		
$\varepsilon$ $\varepsilon$ $\varepsilon$ SOIL $\varepsilon$ GRAVEL ( $x$ ) $\bullet$ GROUND ICE $\varepsilon$		÷
		÷.
I A KEI∑I DH'SCRIPTION POSTC M.C. DQUD I DESCRIPTION	USC	EPTI
		ā
0.0   SAND (sp) - trace silt (< 1%), uniformly		0.0
graded, 100% passing 1.2mm, dry	0000	
		_
	0000	-
	0000	
	0000	
		_
END OF TEST PIT (assumed 1.0m)		
		-
		5.0
		-0.0
		_
-2.0		
		-
		-
EBA Engineering Consultants Ltd. COMPLETION DEPTH 1.0 m COMPLETE 9	0/08/	-
Yellowknife N.W.T. LOGGED BY RN DWG NO.	Page 1 a	of 1

PAULATU	K COM	MUNITY GRANULAR RESOURCES	ORIGINAL BORI	EHOLE NO	: CTP2				BOREHO	LE No. PLS	OTPO	8
gnwt -	DEPT.	OF TRANSPORTATION	EXCAVATING E	QUIPMENT	D8 CAT	•			Project I	No: GNWT		
SOURCE	NO. 2	2, PAULATUK, NWT	UTH ZONE: 10	N769279	95.00 E4	5664	40.00		ELEVATIO	N 10.80 (m)		
SAMPLE	TYPE	DISTURBED NO RECOVER	१४ 🛛 SPT			-CAS	ING	∐ s	Helby Tu	BE LL CO	RE	
				20	■ SAND (9 40 1	<b>5) m</b> 60	80					
ĽĽ	Ĭ	SOIL		20	GRAVEL (	( <b>%)</b> ♦	80	G	ROUNI	) ICE		E
OTH OTH	비교	DECODIDEIO	AT.	DI ACTIC	NC	<u></u>		л	FOODIE	MIAN	USC	HIL
DEI	NS I	DESCRIPTION	N					ע	LOURI	TION		Ш
	1	CAUD / \	- Kaunalu	20	40	60	80					
-1.0		SAND (sp) — trace silt (< 1%), u graded, 100% passing 1.2mm, dr END OF TEST PIT (assumed	niformly y 1.0m)								8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 800 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8000 8	0.0
-2.0												-5.0
t-	EB	A Engineering Consult	tants Ltd	<u> </u>	COMPLE	TION	DEPTH	I.0 m		COMPLETE 90	/08/	
		Yellowknife NW	T.		LOGGER	BY	RN		DWG NO.	L	Page 1	of 1
L			- •									

PAULAT	υĸ	COM	MUNITY GRANULAR RESOURCES	ORIGINAL BORE	HOLE NO	: CTF	<b>7</b> 3		, h		BOREHO	LE No. PLS	OTPO	9
GNWT -	- D	EPT.	OF TRANSPORTATION	EXCAVATING EC	UIPMENT	D8	CAT				Project	No: GNWT		
SOURC	ΕN	10. 2	2, PAULATUK, NWT	UTM ZONE: 10	N769280	<u>50.00</u>	) E45(	596	.00	<b>,</b>	ELEVATK	DN 8.60 (m)		
SAMPL	<u>E</u> ]	TYPE	DISTURBED NO RECOVER	( 🛛 SPT				CASIN	G		SHELBY TU	BE CO	RE	
	إير				20	■ SAI 40	ND (%) 60	<b>۔</b>	30					$\frown$
с ш	비	ž	SOIL		20	GRA 40	VEL (%) 60	! <b>♦</b> ٤	30		GROUN	D ICE	1100	E I
H	믭	PL	ΤΡΟΟΤΟΨΙΟΝ	т	PLASTIC					1	DESCEI	אחודיכ	050	Ηd
B	SAM	R.	DESCRIPTION	N			•				DECOM	non		B
			SAND (op) trace silt and organi	~~	20	40	60	<u>}</u>	80					0.0
0.0			uniformly araded, 100% passing 1	.2mm, dry										
				. ,						1				
													~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	
										1				
													SP 0000	
[]														
														×-
													0000	2
												1		
-1.0			END OF TEST PIT (assumed 1	.0m)										
-														-5.0
														1
		İ												
														\mathbf{F}
-2.0														
														F
														-
	_	ĒB	A Engineering Consult	ants Ltd	•	COI	APLET	ION I	DEPTH	1.0 1	m	COMPLETE 90)/08/	
			Yellowknife NW7			100	GFD	BY R	N		DWG NO.	L	Page 1	of 1
L	-			L +		1-00							1 - 3 - 1	

PAULATU	IK CC	MMUNITY GRANULAR RESOURCES	ORIGINAL BOR	EHOLE NO	D: CT	P4			BOREHOLE No.	PI 90	TP1	0
gnwt -	DEP	. OF TRANSPORTATION	EXCAVATING E	QUIPMENT	r: D8	CAT			Project No: GN	NT T		-
SOURCE	NO.	22, PAULATUK, NWT	UTH ZONE: 10	N76929	85.0) E456	815.00		ELEVATION 10.8	0 (m)		
SAMPLE	: TYP	E DISTURBED 🛛 NO RECOVER	r 🛛 SPT			A-C	ASING		SHELBY TUBE	CORE		
				20	■ \$A 40	ND (%)∎ 60	80					
E Z	ĮΣ	SOIL		20	♦ GRA	VEL (X)		1	GROUND ICE			(ft)
U H	비권	DECODE	т	20	40	60	0	-		U	SC	F
DEF	SAN	DESCRIPTION	N			M.C.	LIQUID		DESCRIPTION			DEP
	ר ר			20	40	60	80					
0.0		SAND (sm) — trace silt and organ	ics,								0000	0.0
		100% passing 1.2mm, moist								1		
											0000	
												1
											6666	F
												1
-					ļļ.					SM		
											6000	
												+
											6666	
												1
											-	
-1.0		END OF TEST PIT (assumed 1	.0m)								0000	
		, , , , , , , , , , , , , , , , , , ,										
												╞
												-5.0
												-
-2.0												
												L
												L
												[
	EB.	Engineering Consults	ants Ltd		COM	PLETION	DEPTH	1.0 m	COMPLE	TE 90/08	1	L
		Yellowknife NWT	LUU LUU		1000		PN .				/	
L		TCHOWKIIIIC N.W.I	•		LUG		1711		DWG NU.	P	geli	UT I

PAULA	TUK	(CON	IMUNITY GRANULAR RESOURCES	ORIGINAL BORI	EHOLE NO): CTF	95			BOREHOL	E No. PLS	OTP	11
GNWT	- 1	DEPT.	OF TRANSPORTATION	EXCAVATING EC	QUIPMENT	: D8	CAT			Project N	lo: GNWT		
SOUR	CE I	NO. 2	2, PAULATUK, NWT	UTM ZONE: 10	N76929	85.00	E456	825.00		ELEVATIO	N 9.50 (m)		
SAMP	LE	TYPE	DISTURBED NO RECOVER	Y 🛛 SPT				ASING	U	SHELBY TUB	E CO	RE	
	Ы	0			20	■ SAN 40	1D (%%)∎ 60	80					
<u>س</u>	Σ	Ż Ш	SOIL		20	♦ GRA\ 40	/EL (%) 60	♦ 80		GROUND	ICE		E
PTH	Ы	MPL	DESCOIDTION	J	PLASTIC.		IC.		in l	DECODID		USC	HE
H H	SAN	₹S	DESCRIPTION	N			•			DEDOME	TION		B
0.0	-		SAND (sm) - some silt 100% page	ssing 1.2mm	20	40	60	80	:				11 00
			moist to wet	song rizhini,								00 01	
												t t	
													F
												, A	669 669
_												SM D	
													AP
													100- 100-
												0	60 50
												14	₩
												8	200 200
1.0			END OF TEST PIT (assumed 1	.0m)									
											i		-
F													-5.0
													-
-2.0													
													-
\vdash													
													-
	L,	<u> </u> הסי	Engineering Concult	onta Ita		0014			<u> </u>	T		////	
]	DŁ		ants Llu. '	•				n i.v m		JUMPLETE 90/	/va/	
			renowknile N.W.1	•		LOG	ED B	r KN		DWG NO.		Page	1 of 1

PAULATI	UK CC	MMUNITY GRANULAR RESOURCES	ORIGINAL BOR	HOLE NO	D: CTP6		····		BOREH	DLE No. PL	90TP	'12
GNWT -	- DEP	r. OF TRANSPORTATION E	EXCAVATING EC	UIPMEN	: D8 CA	T			Project	No: GNWT		
SOURCE	E NO.	22, PAULATUK, NWT	JTM ZONE: 10	N76929	80.00 E	45677	0.00		ELEVAT	ON 9.90 (m)		
SAMPLI	EIYP	E DISTURBED NO RECOVERY				A-CAS	ING		Shelby T	JBE 🔟 CI	ORE	
PTH (m)	NPLE NO	SOIL		20 20	■ SAND (40 ◆ GRAVEL 40	(%) 60 (%) €0	80 80 080		GROUN	D ICE	USC	(ft) HTc
H	NA IS	DESCRIPTION							DFOCKI	PTION		DEI
-1.0		SILT (ml) – sandy, moist, dark grey END OF TEST PIT (assumed 1.0	,)m)		40	<u>50</u>	80				ML	
-2.0	EB	A Engineering Consulta	nts Ltd		COMPLE	ΤΙΟΝ	DEPTH 1	.0 m		COMPLETE 90	/08/	-5.0
ļ	ĘВ	A Engineering Consultai	nts Ltd.		COMPLE	TION	DEPTH 1.	.0 m		COMPLETE 90,	/08/	
		Yellowknife N.W.T.			LOGGED	BY R	N	_	DWG NO.		Page	1 of 1

PAULA	TUK	CON	IMUNITY GRANULAR RESOURCES	ORIGINAL BORI	EHOLE NO	: CTI	77		=		BOREHO	ILE No. PLS	90TP	13
GNWT	- [DEPT.	OF TRANSPORTATION	EXCAVATING EC	QUIPMENT	: D8	CAT				Project	No: GNWT		
SOURC	EN	NO. 2	2, PAULATUK, NWT	UTM ZONE: 10	N76930	85.00) E45(6810.0	0	1	ELEVATION	ON 10.40 (m)		
SAMPI	Ŀ		DISTURBED NO RECOVER	Y XISPT			<u>A-(</u> ۱۵ (۳)	CASING		Ш	J SHELBY TU		RE	<u> </u>
(r	ų	9			20	40	60 60	80			anaini			
u T	Ч Ш	ч	SOIL		20	♥ GRA 40	60 KEL	80			GROUN		1211	H (f
EPTI	ЧЧ	MP	DESCRIPTION	V	PLASTIC		M.C.	U	QUID		DESCRI	PTION	050	EPT
	SA	3		•	20	40	6 0	80						
0.0			SILT (ml) — some fine sand, mois greyish brown	st, dark							<u> </u>			0.0
Ļ													ML	
1.0														
- 1.0			END OF TEST PIT (assumed	1.0m)										
														F
-														-5.0
														0.0
														-
-2.0														
														Ļ
-														
														-
]	ĖB/	A Engineering Consult	ants Ltd	•	COM	IPLETI	ON DE	PTH 1.0) m		COMPLETE 90	/08/	l
			Yellowknife N.W.	[.		LOG	GED B	IY RN			DWG NO.	I	Page	1 of 1

CAMIT DET. OF TRANSPORTION DECAMUNE COURSENT: DECAMUNE CONTROL 10.000 Project No: CAMUT SCURCE NO: 22, PULATIN, NMT UNIX ZONE: 10 NF083120.00 E56910.00 LEXANTON 10.10 (m) SAMPE TIPE DESURT ZIN RECORD 10 NF083120.00 E56910.00 LEXANTON 10.10 (m) SAMPE TIPE DESURT ZIN RECORD 10 NF083120.00 E56910.00 LEXANTON 10.10 (m) SAMPE TIPE DESCRIPTION ZIN RECORD 10 NF083120.00 E56910.00 LEXANTON 10.10 (m) USC SOIL 20 49 59 59 BESCRIPTION USC USC SILT (mi) - some sond. dork greysin brown 20 49 59 59 BESCRIPTION USC -10 END OF TEST PIT (assumed 10m)	PAULAT	UK	COM	IMUNITY GRANULAR RESOURCES	ORIGINAL BOR	EHOLE NO): CTP8				BOREHO	LE No. PIS	IOTP1	4
SOURCE DO 22. PALIATIK, INVT UTI ZONE: 10 N7693120.00 E456910.00 SAMPLE TYPE DOSTURED CHO RECORDER SIT CONFIGURATION SAMPLE TYPE DOSTURED CONSULTANTS Ltd. Yellowknife N.W.T. COMPLETION DEFINING TION CONFIGURATION CONFIGURATION CONFIGURATION SAMPLE TYPE DOSTURED CONSULTANTS Ltd. Yellowknife N.W.T.	GNWT -	- D	EPT.	OF TRANSPORTATION	EXCAVATING E	QUIPMENT	: D8 CAT	Г			Project	No: GNWT	<u> </u>	
SAMPLE TYPE DESURGED ON RECORDER ST	SOURC	ΕN	0. 2	2, PAULATUK, NWT	UTH ZONE: 10	N76931	20.00 E4	45691	10.00		ELEVATK	ON 10.10 (m)		
E SOIL 20 Council Sign - 80 (20, 20, 20, 20, 20, 20, 20, 20, 20, 20,	SAMPL	E 1	IYPE	DISTURBED NO RECOVER	Y 🛛 SPT			a-cas	ING] shelby tv	BE 🚺 CO	RE	
E B B B B B B B B B B B B B B B B B B B		إبي				20	■ SAND (: 40	%}∎ 60	80					
E S DESCRIPTION Name Nam	E	۲	Σ	SOIL		20	GRAVEL	(%)♦ 80	80		GROUNI	D ICE		E
EBA Engineering Consultants Ltd. Yellowknife N.W.T. COMPLETE 00/08/ LOCED BY RN COMPLETE 00/08/ LOWEREND DEPTH 1.0 m COMPLETE 00/08/ LOWEREND DEPTH 1.0 m	HI	믭	<u>d</u>	DECODIDUION	J	PI ASTIC	 Nr				DECODI		USC	H
UU SUT (mi) - some sand, dark greyish brown END OF TEST PIT (assumed 1.0m) EBA Engineering Consultants Ltd. Yellowknife N.W.T. COMPLETE SO/08/ COMPLETE SO/08/	뭥	SAM	3	DESCRIPTION	N						NPOOLUI			В
EBA Engineering Consultants Ltd. Yellowknife N.W.T.	00			SIT (m) - some sand dark area	ish brown	20	40	60	80					
-2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0 -2.0				SILT (ml) – some sand, dark grey END OF TEST PIT (assumed	(ish brown								ML	-5.0
EBA Engineering Consultants Ltd. COMPLETION DEPTH 1.0 m COMPLETE 90/08/ Yellowknife N.W.T. LOGGED BY RN DWG NO. Page 1 of 1	-2.0													
Yellowknife N.W.T. LOGGED BY RN DWG NO. Page 1 of 1		H	EBA	A Engineering Consult	ants Ltd	•	COMPLE	TION	DEPTH 1	.0 m		COMPLETE 90,	/08/	
				Yellowknife N.W.T	1		LOGGED	BYI	RN	· · ·	DWG NO.		Page 1	of t

PAULA	TUK	CON	IMUNITY GRANULAR RESOURCES	ORIGINAL BORI	HOLE NO	: CTP9				BOREHOL	ENo. PL	90TP	15	
GNWT	- [DEPT.	OF TRANSPORTATION	EXCAVATING EC	UIPMENT	D8 CA	T		~	Project N	Io: GNWT			
SOUR	CEI	NO. 2	2, PAULATUK, NWT	UTM ZONE: 10	N769317	75.00 E	4569	20.00		ELEVATIO	N 9.10 (m)			{
SAMP	LE	TYPE	DISTURBED NO RECOVER	Y ∐SPT				SING		Shelby Tue		DRE	_	
	Ы	<u>_</u>	COLL		20	40	60	80		anathin	TOD			Ω
	Ц Ц	Ч	SOIL		20	40	{%}● 60	80		GRUUNL	ICE	1211		H (f
EPT	MPL	AMP	DESCRIPTION	V	PLASTIC	M.C		liquid]	DESCRIP	TION	0.50)EPT
	S/	0,			20	40	60	80						
0.0			SAND (SM) — silty, trace organics dark brown	, moist,								5 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6		0.0
-1.0			END OF TEST PIT (assumed	1.0m)										-5.0
-2.0														-
	1	ER/	Engineering Consult	ants Ltd	<u>L: :</u>	COMPL	: Etion	i depth 1	.0 m		COMPLETE 90	⊥L)/08/		
		6	Yellowknife N.W.	[.	-	LOGGE	d By	RN		DWG NO.		Page	1 of	 F 1

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PAULAI	ΓUK	CON	IMUNITY GRANULAR RESOURCES	ORIGINAL BOR	EHOLE NO): 1052600	1		BOREHOLE No.	PL91TF	- 201	
GNWT	- C	EPT.	OF TRANSPORTATION	EXCAVATING E	QUIPMENT	: D8 CAT			Project No: EBA#0	701-105	26	
SOURC	E١	10. 2	3, PAULATUK, NWT	UTM ZONE: 10) N76918	10.00 E459	085.00		ELEVATION 10.00 (m)		
SAMPL	E	TYPE	DISTURBED NO RECOVER	Y 🛛 SPT		A-C	ASING		SHELBY TUBE	CORE		
	ш				20	■ SAND (%) ■ 40 60	80					_
E)	뉟	ž	SOIL		20	♦ GRAVEL (%)	♦ 80		GROUND ICE			Ξļ
H	님	Ĩ	DECODIDEIO	т		<u> </u>	000	-	TOODIDMION	USC		E
B	MAR	S	DESCRIPTION	N				1	DESCRIPTION			B
0.0			CAND AND CRAVEL (SD) trace	11.	20	40 60	80					00
-1.0			 SAND AND GRAVEL (SP) - trace s cobbles, organics, and rootlets, tr carbonates and oxides on gravel poorly graded, crossbedded, suba subrounded, dry to damp, brown fines content 4.9% - organic content 1.7% SAND (sm) - silty, trace to some trace organics and rootlets, fine uniformly graded, damp, light brown (sm) - trace gravel, silt and clay SILT (ml) - some sand, trace clabrown, (permafrost) plastic, layered deposit, moist, qr END OF TEST PIT (Refusal at Test pit open and dry upon comp Occasional zones of good gravel (observed from a less representa of test pit) 	ilt, ace particles, ngular to grained, grained, wn y, non- ey- 1.7m) sletion. below 1.0m tive part				Nf-V	e 2%	SP G		-5.0
				·····					••••••••••••••••••••••••••••••••••••••			
]	EBA	A Engineering Consult	ants Ltd	•	COMPLETIC)n depth 1	.7 m	COMPLETE	91/03/	22	
			Yellowknife N.W.7	۲ •		LOGGED B	Y TEH		DWG NO.B-01	Pag	e 1 of	f 1

PAULATUK	COM	IMUNITY GRANULAR RESOURCES	ORIGINAL BOR	HOLE NO): 1052	6002			BOREHOLE No.	PL91TP	02
gnwt – D	DEPT.	OF TRANSPORTATION	EXCAVATING EC	QUIPMENT	: D8 C	AT			Project No: EBA	#0701-1052	.6
SOURCE N	10. 1	2, PAULATUK, NWT	UTH ZONE: 10	N76892	45.00	E4657	65.00		ELEVATION 14.00) (m)	
SAMPLE T		DISTURBED NO RECOVER	Y 🛛 SPT			A-CA	SING		SHELBY TUBE		
(m)	E NO	SOIL		20 20	40 40 40 40 40	60 L (%) ● 60	80 80		GROUND ICE		(ft)
EPTH MPLE	AMPL	DESCRIPTION	V	PLASTIC	M.	2	liquid		DESCRIPTION		EPTH
SA D	S			20	4	60	 80				
0.0		 GRAVEL (GP) - sandy, trace silt of rounded to subrounded to subrounded to subang poorly graded, particle sizes 5% > largest 300mm, massive deposit, brown with oxide stains - fines content 3.3% - organic content 1.9% END OF TEST PIT (Refusal at Test pit open and dry upon comp Test pit within present developed borrow area. 	nd clay, jular, > 75mm, damp, damp,		40			Nf-\	/c 2%		
	 • • •		1 7					<u> </u>			
Ľ	7R	a Engineering Consult	ants Ltd.	•	COMP	LETION	I DEPTH 1	l.5 m	COMPLE	ETE 91/03/2	4
		Yellowknife N.W.T	•		LOGGE	D BY	TEH		DWG NO.B-02	Page	1 of 1

PAULATUK C	OMMUNITY GRANULAR RESOURCES	ORIGINAL BORI	EHOLE NO	: 10526003	·		BOREHOLE No.	PL91TP0	3
gnwt - def	PT. OF TRANSPORTATION	EXCAVATING E	QUIPMENT	: D8 CAT			Project No: EBA#	0701-10526	
SOURCE NO.	12, PAULATUK, NWT	UTM ZONE: 10	N76892	10.00 E4656	70.00		ELEVATION 14.00	(m)	
SAMPLE TY	PE DISTURBED NO RECOVER	Y 🛛 SPT		A-CA	SING		Shelby tube [CORE	
ш.,			20	■ SAND (%) ■ 40 60	80				
	SOIL		20	♦ GRAVEL (%) ♦	80	(GROUND ICE		(ŧ)
문 비 =		т		40 00	00	т	DOGDIDMIAN	USC	Η
SAME DEF	ESCRIPTION DESCRIPTION	N	PLASIK	M.L.		1	DESCRIPTION		B
			20	40 60	80				<u> </u>
-1.0	GRAVEL (GP-GM) - some sand a trace silt and clay, trace carbona sub-angular, particle sizes: 5% > largest 300mm; massive deposit, brown with trace oxide stains oxides on gravel particles, subrou END OF TEST PIT (Refusal at Test pit open and dry upon comp Test pit along edge of bank, in d portion of borrow pit.	nd organics, tes and 75mm, damp, nded to 1.2m) eveloped				Nf-Vo	2%	4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 </td <td></td>	
וים	A Engineering Concult	onto Itd	1			 م			<u>_l</u>
	DA Eligineering Consult Vallander is NW	anus Lia r	•					Γ_ 31/0J/24	<u> </u>
	Iellowknile N.W.	<u>l.</u>		LOCGED BY	IEH		DWG NO.B-03	Page 1	1 10

PAULA	TUK	CON	IMUNITY GRANULAR RESOURCES	ORIGINAL BORI	HOLE NO	: 105260)04	• •		BOREHOLE No.	PL91	TP0	4
GNWT	- [DEPT.	OF TRANSPORTATION	EXCAVATING E	UIPMENT	D8 CAT				Project No: EBA#(0701-10)526	
SOUR	CE N	10. 1	2, PAULATUK, NWT	UTH ZONE: 10	N768929	90.00 E4	6619	5.00		ELEVATION 13.00	(m)		
SAMP	LE	TYPE	DISTURBED NO RECOVER	ny 🛛 SPT		A	-CASI	NG		SHELBY TUBE	CORE		
_	ш				20	■ SAND (% 40 6	5)∎ 30	80					
(ع	Ł	N	SOIL		20	GRAVEL (%}♦	80		GROUND ICE	1		(Ħ
TH	Ч	PLE		T			<u>, , , , , , , , , , , , , , , , , , , </u>	10110		DECODEDITION	U.	SC	ΗЦ
B	AMF	SAN	DESCRIPTION	N	PLASIN.	M.U.				DESCRIPTION			DE
	Ľ			nual	20	<u>40 E</u>	<u>;0</u>	80				Tutu	0.0
			SAND (sm) - some silt, trace gro cobbles, and organics, subrounde - some oversized particles expos surface (estimate 2%), largest siz saturated, brown with trace oxide - some gravel - very moist END OF TESTPIT (Refusal at Test pit open and dry upon comp Test pit approximately 65m from bank. Hand-excavated to 0.3m below (excavation.	ovel, d, ed at re 250mm stains 0.7m) Netion. edge of CAT					Nbn	Nf	SM		0.0
						00000							
		FR.	A Engineering Consult	tants Ltd	•	COMPLE	TION	DEPTH (0.7 m	COMPLET	E 91/0	3/24	
			Yellowknife N.W.	ľ		LOGGED	BY 1	TEH		DWG NO.B-04	P	age 1	of 1

PAULATUK (COM	MUNITY GRANULAR RESOURCES	ORIGINAL BORI	HOLE NO	: 1052600	5		BOREHOLE No.	PL91T	POS	5
gnwt - De	PT.	OF TRANSPORTATION	EXCAVATING E	QUIPMENT	D8 CAT			Project No: EBA#0	701-10	526	
SOURCE NO). 1: VET	2, PAULATUK, NWT	UTM ZONE: 10	N768948	30.00 E46	6040.00	ر س ا	ELEVATION 15.00 (m) Loope		
SAMPLE T	YPE	DISTURBED NO RECOVER	RY XISPT				<u>г ЦЦ</u>	SHETBA INBE	I COKF		
(m) 	E NO	SOIL		20 20	40 60 ♦ GRAVEL (%) 40 60	80 * 80		GROUND ICE		0	(tt) +
DEPTH	SAMPL	DESCRIPTIO	N	PLASTIC	M.C.	Liquid		DESCRIPTION	05	C	DEPTH
			alaw. and	20	40 60	80					0.0
-1.0		SAND (sm) — silty, trace gravel, organics, poorly graded, subround subangular, saturated, brown with stains — some gravel, trace silt, very m oxide stains — END OF TEST PIT (Refusal at Test pit open and dry upon comp	clay, and ded to noxide t 0.9m) oletion.				Nbn- occa zone: Nbn-	Vc 2%, sional s of Nf -Nf	SM		-5.0
Ā	B	A Engineering Consult	tants Ltd		COMPLET	ION DEPTH	0.9 m	COMPLETE	91/03	/24	
		Yellowknife NW	T.		LOGGED I	BY TEH		DWG NO.B-05	Po	ige 1	of 1
L		1 VII V II III V 11+ II +	T)					I		<u> </u>	

PAULATUK COMMUNITY GRANULAR RESOURCES	ORIGINAL BORE	HOLE NO	: 10526006		BORE	HOLE No. PL	_91TP0	6
GNWT - DEPT. OF TRANSPORTATION	EXCAVATING EC	QUIPMENT:	D8 CAT		Proje	ct No: EBA#070	01-10526	
SOURCE NO. 12, PAULATUK, NWT	UTM ZONE: 10	N768948	30.00 E4655	510.00	ELEV	ATION 15.00 (m)	
SAMPLE TYPE DISTURBED 🗌 NO RECOVER	NY SPT		ACA	SING		TUBE	CORE	
	AT	20 20 PLASTIC	■ SAND (%) ■ 40 60 ● GRAVEL (%) ● 40 60 ■ C	80 80	GROU	ND ICE	USC	(PTH (ft)
	N		·····•	1		MI HON		В
0.0 GRAVEL AND SAND (GP) - trace of sitt, clay, and organics, 150mm misize, subrounded to subangular, misize, subrounded to subangular, misize, subrounded to subangular, misize, subrounded to subangular, misize, subrounded to subangular, misize, subrounded to subangular, misize, subrounded to subangular, misize, subrounded to subangular, misize, subrounded to subangular, misize, subrounded to subangular, misize, subrounded to subangular, misize, subrounded to subangular, misize, subrounded to subangular, misize, subrounded to subangular, misize, subrounded to subangular, misize, subrounded to subangular, misize, subrounded to subangular, misize, subrounded to subangular, misize, subrounded to subangular, misize, subrounded to subangular, misize, subrounded to subangular, misize, subrounded to subangular, misize, subrounded to subangular, misize, subrounded to subangular, misize, subrounded to subangular, misize, subrounded to subangular, misize, subrounded to subangular, misize, subrounded to subangular, misize, subrounded to subangular, misize, subrounded to subangular, misize, subrounded to subangular, misize, subrounded to subangular, misize, subrounded to subangular, misize, subrounded to subangular, misize, subrounded to subangular, misize, subrounded to subangular, misize, subrounded to subangular, misize, subrounded to subangular, misize, subrounded to subangular, misize, subrounded to subangular, misize, subrounded to subangular, misize, subrounded to subangular, misize, subrounded to subangular, misize, subrounded to subangular, misize, subrounded to subangular, misize, subrounded to subangular, misize, subrounded to subangular, misize, subrounded to subangular, misize, subrounded to subangular, misize, subrounded to subangular, misize, subangular, misize, subrounded to subangular, misize, subrounded to subangular, misize, subrounded to subangular, misize, subangular, misize, subangular, misize, subangular, misize, subangular, misize, subangular, misize, su	t 2.4m) pletion.				Nf, small zo of Nbn	mes	244 444 444 444 444 444 444 444	0.0
EBA Engineering Consult	tants Ltd	•	COMPLETIO	N DEPTH 2	2.4 m	COMPLETE	91/03/24	
Yellowknife N.W.	Г.		LOGGED BY	' TEH	DWG N	10.B-06	Page 1	of 1

PAULA	TU	< CC	MMUNITY GRANULAR RESOURCES	ORIGINAL BORI	EHOLE NO	: 10	52600	7			BOREHOI	LE No. PLS)1T	P07	/
GNWT	-	DEP	T. OF TRANSPORTATION	EXCAVATING E	QUIPMENT	: D8	CAT				Project I	No: EBA#0701	-105	626	
SOUR	CE	NO.	12, PAULATUK, NWT	UTH ZONE: 10	N768978	30.00	E46	5375	.00		ELEVATIO	N 15.50 (m)			
SAMP	LE	TYP	E DISTURBED NO RECOVER	RY 🛛 SPT				CASIN	G		SHELBY TUE	BE LCO	RE		
	اير				20	■ SAJ 40	ND (%) 60	X	BØ						
E)	E	Ĭ	SOIL		20	GRA	/EL (%) 60	•	80		GROUNI) ICE			E
TH	Ы	PL		AT.		-10	<u></u>				DECODI		US	2	HIT
B	SAMI	SAN	DESCRIPTION	N			₩.U <i>.</i>				DESCRIP	TION			8
0.0	Ĺ		SAND (om) - cilly trace gravel o	ind	20	40	60		80						00
-1.0			SAND (sm) - silty, trace gravel o rootlets, uniformly graded, subrou saturated, brown END OF TEST PIT (Refusal at Test pit open and dry upon comp	nd nded, 0.3m) detion						Nbn			SM		-5.0
		EE	A Engineering Consult	ants Ltd		CON	IPLETI	ON D	DEPTH	0.3 m		COMPLETE 91	/03,	/24	
			Yellowknife N.W.	Г.		LOG	GED E	BY TE	H		DWG NO.B	3-07	Pag	pe 1	of 1

PAULA	TUK	(CO	IMUNITY GRANULAR RESOURCES	ORIGINAL BORE	EHO	LEN	10:	105	2600	38				BOREHC	ILE No. PL	91TI	P08	3
GNWT	- [DEPT	OF TRANSPORTATION	EXCAVATING EC	QUIF	ME	NT:	D8 (CAT					Project	No: EBA#0701	-105	26	
SOUR	CEI	NO. 1	2, PAULATUK, NWT	UTH ZONE: 10	N7	689	910).00	E46	574	0.0)		ELEVATION	ON 15.00 (m)			
SAMP	LE	TYPE	DISTURBED NO RECOVER	Y 🔀 SPT						CAS	NG			SHELBY TI	IBE LLC)re	r	
	ш					20		ISAN 40	0 (%) 60)	80							\sim
, m	Σ	Т	SOIL			20	•	GRAV 40	EL (%) 60	}✦ }	80			GROUN	d ice	110/		E
PTH	ЫЧ	Μ	ΝΕςαριστία	J	PL	astic	2	M	I.C.		LKO	UID		DESCRU	PTION	050	-	HT
閚	SAM	R.	DESCRIPTION	N		⊢			•			4		DEDOM				B
0.0	╞		SAND (cm) - silty trace gravel of	lay and		20		40	<u>60</u>)	80			<u> </u>			mf	0.0
0.0			organics, uniformly graded, subro	unded,														
			saturated, brown to dark brown										Nbe-	-Vc 1%		SM		
						•											oopp	
			END OF BOREHOLE (Refusal -	at 0.3m)													9000	-
			Test pit open and dry upon comp	letion														
L																		
																	ļ	-
					1													
																		-
-1.0																		
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-																		-50
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		ĽВ	A Lugineering Consult	ants Ltd	•		ľ	JUMI	-LF1	IUN	ULH	4H (J.5 M	1	COMPLETE 91	/03/	24	
			Yellowknife N.W.	Ľ.			1	0000	GED I	BY 1	TEH			DWG NO.	B-08	Pag	je 1 d	of 1

PAULATUK COMMUNITY GRANULAR RESOURCES	ORIGINAL BORE	HOLE NO	: 1052600	9		BOREHOLE No. PL	91TPC	9
GNWT - DEPT. OF TRANSPORTATION	EXCAVATING EC	QUIPMENT	: D8 CAT			Project No: EBA#070	1-10526	
SOURCE NO. 12, PAULATUK, NWT	UTH ZONE: 10	N76899(05.00 E46	5185.00		ELEVATION 15.00 (m)	
SAMPLE TYPE DISTURBED NO RECOVER	RY SPT			CASING		SHELBY TUBE	T	
		20	40 60	80				\square
		20	GRAVEL (%)	◆ 80		GROUND ICE	1100	()
[튭립률] DESCRIPTIO	V	PLASTIC	M.C.	Liquid		DESCRIPTION	030	EPT
	. •	⊢ <u>−</u>	40 60					
-2.0 - bit bound and sand, fine content 4.9% -2.0 - becomes gravel and sand, fine content 4.9% -2.0 - becomes gravel and sand, fine content 4.9% -2.0 - becomes gravel and sand, fine content 4.9% -2.0 - becomes gravel and sand, fine content 4.9% -2.0 - becomes gravel and sand, fine content 4.9% -2.0 - becomes gravel and sand, fine content 4.9% -2.0 - becomes gravel and sand, fine content 4.9% -2.0 - becomes gravel and sand, fine content 4.9% -2.0 - becomes gravel and sand, fine content 4.9% -2.0 - becomes gravel and sand, fine content 4.9% -2.0 - becomes gravel and sand, fine content 4.9% -2.0 - becomes gravel and sand, fine content 4.9% -2.0 - becomes gravel and sand, fine content 4.9% -2.0 - becomes gravel and sand, fine content 4.9% -2.0 - becomes gravel and sand, fine content 4.9% -2.0 - - -2.0 - - -2.0 - - </td <td>clay, ded, ded, on gravel on gravel es at 2.1m) pletion. errace.</td> <td>-20</td> <td></td> <td></td> <td>Nbe Nf-N</td> <td>lbn</td> <td>SM COC 44 44 44 44 44 44 44 44 44 44 44 44 44</td> <td></td>	clay, ded, ded, on gravel on gravel es at 2.1m) pletion. errace.	-20			Nbe Nf-N	lbn	SM COC 44 44 44 44 44 44 44 44 44 44 44 44 44	
			F					
EBA Engineering Consult	tants Ltd	•	COMPLETI	on depth	2.1 m	COMPLETE S)1/03/24	
Yellowknife N.W.	Т.		LOGGED E	BY TEH		DWG NO.B-09	Page	l of 1

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GNWT - DEPT. OF TRANSPORTATION SOURCE NO. 12, PAULATUK, NWT SAMPLE TYPE DISTURBED NO RECOVER	EXCAVATING EQU UTM ZONE: 10 N RY SPT	UIPMENT: N769015 20	D8 CAT	140.00 ISING		Project No: EBA#07 ELEVATION 15.00 (m	01-105 n)	26	
SOURCE NO. 12, PAULATUK, NWT SAMPLE TYPE DISTURBED NO RECOVER		N769015	50.00 E465	140.00 ISING	<u> </u>	ELEVATION 15.00 (m)		
SAMPLE TYPE DISTURBED NO RECOVER		20	AC/	SING			<u>, </u>		$ \rightarrow $
	-	20			\square	SHELBY TUBE	CORE		
Image: Solid state Solid state Image: Solid state Solid state Image: Solid state DESCRIPTION	N	20 PLASTIC	40 60 GRAVEL (%) 40 60	80 80 LIQUID	([GROUND ICE DESCRIPTION	USC		DEPTH (ft)
		20	40 60	80					
0.0 SAND (sm) - silty, some gravel of organics, trace clay, poorly grade layered deposit, saturated, brown GRAVEL (CW) - some sand, trace cobbles, trace silt and organics, y graded, subrounded to subangula size 200mm, massive deposit, do -1.0 - sandy, trace carbonates and o gravel -1.0 - becomes gravel and sand, fine -2.0 - becomes gravel and sand, fine -2.0 - becomes gravel and dry upon comp -2.0 - becomes gravel and dry upon comp -2.0 - below terrace	e to some well ir, maximum imp, brown es t 2.1m) pletion				Nbe to	o Vc 2%	SM		0.0
EBA Engineering Consult Yellowknife NW	tants Ltd. r		COMPLETIO	N DEPTH 2	2.1 m		91/03/	24	

APPENDIX F

LABORATORY DATA FOR BOREHOLES AND TESTPITS INCLUDED IN DATABASE



(_							
(3″			10	0.0
er:`	NWT	90	-9	506,	Lab	No). (9065	59					-[2″			9	07.5
ť	inkno	own												[11	/2"			9	7.0
Baber:	PL901	P 0	1	(HTP)	1)									-[1″			9	94.5
ι	inkno	own													3	3/4"			9	2.0
on:	SAND	(S	P)	- se	ome	gra	ive	1, t	trad	ce f	ine	S			3	/8″			8	37.0
Cu:		3.2													N	0.4			8	32.5
Cc:	1	1.2													No	o. 10			1	6.0
ture Con	tent: _	un	kn	own										×	No	b. 20			5	6.0
															No	b. 40			1	.8.0
$0_{10} = 0$.28m	N		D30	= 0	.54	mm		D	se =	0.9	mm			No	60				8.0
														$- \lfloor$	No	. 100				3.5
			'											_[No	. 200				2.0
											e						0		FI	
AY				SILT					FIN	E		MED	DIUN		COARS		INE	Ĩ	CO	ARSE
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01 .002	2	005		.01	.02	.0	5	0.1).2	0	.5	1.0	2	.0	5.0	10	20)	50
	$\frac{\mathbf{P}}{\mathbf{P}} = 0$	PL907 mber:	PL90TPO. unknown ion:	PL90TP01 mber:	PL90TP01 (HTP: unknown ion: SAND (SP) - 50 Cu: 3.2 Cu: 1.2 Cc: unknown ture Content: 0 D10 = 0.28mm D30 AY SILT AY SILT 0 1 .002 .005 .01	PL90TP01 (HTP1) unknown ion: SAND (SP) - some Cu: 3.2 Cu: 1.2 Cc: unknown ture Content: $0_{30} = 0$ AY SILT AY SILT Image: Arrow of the second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second	PL90TP01 (HTP1) unknown ion: SAND (SP) - some gra Cu: 1.2 Cc: 1.2 Cc: unknown ture Content: D10 = 0.28mm D30 = 0.54 AY SILT AY SILT	PL90TP01 (HTP1) unknown ion: SAND (SP) - some grave Cu: 1.2 Cc: 1.2 Cc: unknown ture Content: D10 = 0.28mm D30 = 0.54mm AY SILT AY SILT 	PL90IP01 (HTP1) unknown ion: SAND (SP) - some gravel, for the second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second	PL90TP01 (HTP1) unknown ion: SAND (SP) - some gravel, trac Cu: 3.2 Cu: 1.2 Cc: unknown ture Content: 010 = 0.28mm D10 = 0.28mm D30 = 0.54mm D1 = 0.28mm D30 = 0.54mm D1 = 0.28mm D30 = 0.54mm	PL90TP01 (HTP1) unknown ion: SAND (SP) - some gravel, trace f Cu: 3.2 Cu: 1.2 Cu: unknown ture Content: unknown D10 = 0.28mm D30 = 0.54mm D60 = AY SILT FINE #200 #100 #80 #20 #100 #80 unknown Unit of the second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second s	PL90TP01 (HTP1) unknown ion: SAND (SP) - some gravel, trace fine Cu: 1.2 Cc: unknown ture Content: unknown D10 = 0.28mm D30 = 0.54mm D60 = 0.9 AY SILT FINE #200 #100 #80 #404 #404 UNARTING FINE #200 #100 #80 #404 #404 UNARTING FINE #200 #100 #80 #404 #404 UNARTING FINE #200 #100 #80 #404 FINE UNARTING FINE #200 #100 #80 #404 FINE UNARTING FINE UNARTING FINE UNARTING FINE #200 #100 #80 #404 FINE UNARTING FINE UNARTING FINE UNARTING FINE INARTING <	PL90TP01 (HTP1) unknown ion: SAND (SP) - some gravel, trace fines Cu: 1.2 Cc: unknown ture Content: unknown D10 = 0.28mm D30 = 0.54mm D60 = 0.9mm AY SILT FINE MEE $2200 \pm 100 \pm 60 \pm 40 \pm 30 \pm 20$ $\pm 40 \pm 30 \pm 20$ $\pm 40 \pm 30 \pm 20$ $4Y$ SILT FINE MEE $200 \pm 100 \pm 60 \pm 40 \pm 30 \pm 20$ $\pm 40 \pm 30 \pm 20$ $\pm 40 \pm 30 \pm 20$ $4Y$ SILT FINE MEE $200 \pm 100 \pm 60 \pm 40 \pm 30 \pm 20$ $\pm 40 \pm 30 \pm 20$ $\pm 40 \pm 30 \pm 20$ $40 \pm 30 \pm 20 \pm 100 \pm 1$	PL90TP01 (HTP1) unknown ion: SAND (SP) - some gravel, trace fines Cu: 1.2 Ce: unknown ture Content: 010 = 0.28mm D10 = 0.28mm D30 = 0.54mm D60 = 0.9mm AY SILT FINE #200 #100 #80 #40#30 #20 #6 #40#30 #20 #6 #200 #100 #80 #40#30 #20 #6 #100 #80 #40#30 #20 #6 Image: Since the second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second secon	PL90TP01 (HTP1) unknown ion: SAND (SP) - some gravel, trace fines Cu: 3.2 Cu: 1.2 Cc: unknown ture Content: % D10 = 0.28mm D30 = 0.54mm D60 = 0.9mm AY SILT FINE MEDIUM SIEVE S #200 #100 #50 #40#30 #20#16 #10 \$ #200 #100 #50 #40#30 #20#16 #10 #100 #50 #40#30 #20#16 #10 \$ #200 #100 #50 #40#30 #20#16 #10 #100 #50 #40#30 #20#16 #10 \$ #200 #100 #50 #40#30 #20#16 #10 #100 #50 #40#30 #20#16 #10 \$ #200 #100 #50 #40#30 #20#16 #10 #100 #50 #40#30 #20#16 #10 \$ #200 #100 #50 #40#30 #20#16 #10 #100 #50 #40#30 #20#16 #10 \$ #200 #100 #50 #40#30 #20#16 #10 #100 #50 #40#30 #20#16 #10 \$ #200 #100 #50 #40#30 #20#16 #10 #100 #50 #40#30 #20#16 #10 \$ #200 #100 #50 #40#30 #20#16 #10 #100 #50 #40#30 #20#16 #10 \$ #200 #100 #10 #10 #10 #10 #10 #10 #10 #10	PL90TP01 (HTP1) 3 ion: SAND (SP) - some gravel, trace fines 3 ion: 3.2 N Cu: 1.2 N cc: unknown N ture Content: unknown N D10 = 0.28mm D10 = 0.54mm D60 = 0.9mm AY SiLT SAND FINE MEDIUM COARS siEVE SIZES #200 #100 #50 #40#30 #20 #8 #10#9 #200 #100 #50 #40#30 #20 #8 #10#9 #10# under the second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second	PL90TP01 (HTP1) 1" unknown 3/4" ion: SAND (SP) - some gravel, trace fines 3/8" ion: 3.2 No.4 Cc: 1.2 No.4 cc: unknown % ture Content: wnknown % ture Content: 010 = 0.54mm D(0 = 0.9mm No.40 No.60 No.700 No.200 No.200 No.200 AY SILT FINE MEDIUM COARSE SIEVE SIZES #200 #100 #00 #40#30 #20 #6 #10#8 #4 #4 SIEVE SIZES #200 #100 #00 #40#30 #20 #6 #10#8 #4 #4 SIEVE SIZES #200 #100 #00 #40#30 #20 #6 #10#8 #4 #4 SIEVE SIZES #200 #100 #00 #40#30 #20 #6 #10#8 #4 #4 SIEVE SIZES #200 #100 #00 #40#30 #20 #6 #10#8 #4 #4 SIEVE SIZES #200 #100 #00 #40#30 #20 #6 #10#8 #4 #4 SIEVE SIZES #200 #100 #00 #10#30 #20 #6 #10#8 #4 #4 SIEVE SIZES #200 #100 #00 #10#10 #10#10#10#10#10#10#10#10#10#10#10#10#10#	mber: PL90TP01 (HTP1) 1" unknown 3/4" ion: 3.2 Cu: 3.2 Cu: 1.2 No.4 No.4 No.20 No.40 No.40 No.20 No.40 No.40 No.10 No.40 No.10 No.40 No.40 No.40 No.40 No.40 No.40 No.60 No.100 No.60 No.200 No.60 No.200 No.60 No.200 No.60 No.200 No.60 No.200 No.200 AY SILT FINE MEDIUM SAND COARSE #200 #100 #00 #40#30 #20 #10 #8 #200 #100 #80 #40#30 #20 #10 #8 #200 #100 #80 #40#30 #20 #10 #8 #200 #100 #80 #40#30 #20 #10 #8 #200 #100 #80 #40#30 #20 #10 #8 #200 #100 #80 #40#30 #20 #10 #8 #200 #100 #10 #10 #10 #10 #10 #10 #10 #10 #10	PL90TP01 (HTP1) 1" unknown 3/4" con: 3.2 Cu: 3.2 Cc: 1.2 unknown % No. 4 No. 4 No. 10 No. 20 No. 20 No. 40 D10 = 0.28mm D30 = 0.54mm D60 = 0.9mm No. 40 No. 60 No. 60 No. 100 No. 200 No. 60 No. 100 No. 200 No. 200 AY SILT FINE MEDIUM COARSE SIEVE SIZES #200 #100 #00 #40#30 #20 #8 #10 #8 -3/2"/7" 3/2" SIEVE SIZES #200 #100 #00 #40#30 #20 #8 #10 #8 -3/2"/7" 3/2" SIEVE SIZES #200 #100 #00 #40#30 #20 #8 #10 #8 -3/2"/7" 3/2" O1 002 005 01 02 05 01 02 05 0.1 0.2 05 0.1 0.2 0.5 1/0 20 50 1/0 20	mber: PL90TP01 (HTP1) 1" 9 unknown 3/a" 9 ion: SAND (SP) - some gravel, trace fines 3/a" 9 Cu: 3.2 No.4 8 Cu: 1.2 No.4 8 Co: 1.2 No.4 8 Mo. to no.4 8 No.4 8 No.4 8 No.4 1 No.10 No.4 1 No.40 1 No.4 10 No.40 1 No.40 1 No.40 1 No.40 1 No.40 1 No<200

PARTICLE - SIZE ANALYSIS OF SOILS

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PERCENTAGE SIEVE Project: ____ Paulatuk Granular Resources Study PASSING 3" 2″ GNWT 90-9506, Lab No. 90658 Project Number: ____ 11/2" unknown Date Tested: ____ 1" Borehole Number: PL90TP02 (HTP2) 3/4" unknown Depth: 3/8" Soil Description: _______SAND (SP) - trace fines No. 4 100.0 2.0 Cu: ____ No. 10 99.5 1.1 Cc: ____ No. 20 99.0 Natural Moisture Content: <u>unknown</u> ¥ No. 40 67.0 Remarks: ... $D_{10} = 0.2mm$ $D_{30} = 0.3mm$ No. 60 $D_{ca} = 0.4mm$ 18.0 No. 100 5.0 No. 200 3.0 SAND GRAVEL CLAY SILT FINE MEDIUM FINE COARSE COARSE SIEVE SIZES 3/8" 1/2" 3/4" 1" 11/2" 2" #200 #100 #60 #40 #30 #20 #16 #10 #8 3" 100 90 80 70 PERCENT SMALLER 60 50 40 30 20 10 0 50 .0005 .001 .002 .005 .01 .02 .05 0.1 0.2 0.5 1.0 2.0 5.0 10 20 **GRAIN SIZE - MILLIMETRES**

PARTICLE - SIZE ANALYSIS OF SOILS

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PERCENTAGE SIEVE Paulatuk Granular Resources Study PASSING Project: 3″ 2" GNWT 90-9506, Lab No. 90657 Project Number: _ 11/2" unknown Date Tested: Borehole Number: PL90TP03 (HTP3) 1″ 3/4" 100.0 unknown Depth: ____ 3/8" SAND AND SILT (SP-ML) - trace gravel 98.5 Soil Description: _ No.4 N/A 96.5 Cu: ____ No. 10 N/A 93.8 Cc: _ Natural Moisture Content: unknown No. 20 90.8 * No. 40 82.0 Remarks: _ $D_{60} = 0.14$ mm $D_{10} = 0.N/A$ $D_{3A} = N/A$ No. 60 72.0 No. 100 62.0 No. 200 48.0 SAND GRAVEL CLAY SILT FINE MEDIUM COARSE FINE COARSE SIEVE SIZES #40 #30 #20 #16 #10 #8 3/8" 1/2" 3/4" 1" 11/2" 2" #200 #100 #60 3' #4 100 90 80 70 PERCENT SMALLEI 60 50 40 30 20 10 0 0.2 2.0 .0005 .001 .002 .005 .01 .02 .05 0.1 0.5 1.0 5.0 10 20 60 **GRAIN SIZE - MILLIMETRES**

PARTICLE - SIZE ANALYSIS OF SOILS

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PERCENTAGE SIEVE Paulatuk Granular Resources Study PASSING Project: _ 3″ 100.0 2″ 97.5 0701-10526 Project Number: _ 1¹/2" 95.2 1991 03 30 Date Tested: . 1" 89.4 PL91TP01 Borehole Number: _ 3/4" 84.2 0.6m Depth: ____ 3/8" 69.6 SAND AND GRAVEL (SP) - trace silt and clay Soil Description: -No.4 57.5 27.3 Cu:_ No. 10 . 49.7 0.23 Cc: No. 20 40.3 5.8 Natural Moisture Content: . No. 40 24.0 Remarks: No. 60 $D_{10} = 0.22$ mm $D_{kn} = 6.0mm$ 11.5 $D_0 = 0.55$ mm No. 100 6.3 No. 200 4.9

PARTICLE - SIZE ANALYSIS OF SOILS



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PERCENTAGE SIEVE Paulatuk Granular Resources Study PASSING Project: 3″ 100.0 2″ 0701-10526 94.0 Project Number: _ 11/2" 1991 03 30 89.0 Date Tested:. 1" Borshols Number: PL91TP02 76.5 3/4" 66.0 1.5m Depth: ___ 3/8" 40.5 GRAVEL (GP) - sandy, trace silt and clay Soil Description:_ No.4 27.3 42.1 Cu: No. 10 5.0 23.4 Cc: Natural Moisture Content: 7.8 No. 20 21.1 % No. 40 11.9 Remarks: No. 60 $D_{10} = 0.38 \text{mm}$ $D_n = 5.5 \text{mm}$ $D_{c_0} = 16.0 mm$ 6.6 No. 100 4.4 No. 200 3.3 GRAVEL SAND CLAY SILT FINE MEDIUM COARSE FINE COARSE SIEVE SIZES 3/8" 1/2" 3/4" 1" 11/2" 2" #200 #100 #60 #40 #30 #20 #16 #10 #8 3' 100 П 90 80 70 PERCENT SMALLER 60 50 40 30 20 10 0 50 .0005 .001 0.2 0.5 1.0 2.0 5.0 10 20 .002 .005 .01 .02 .05 0.1 **GRAIN SIZE -- MILLIMETRES**

PARTICLE - SIZE ANALYSIS OF SOILS

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PERCENTAGE SIEVE Paulatuk Granular Resources Study Project: PASSING 3" 100.0 0701-10526 2″ 89.4 Project Number: 1991 03 30 1¹/2" 77.9 Date Tested: PL91TP03 1″ 68.3 **Borehole Number:** 1.2m 3/4" 59.3 Depth: ----3/8" GRAVEL (GM) - some sand, trace silt and clay 36.5 Soil Description: Cu: 105.0 26.1 No.4 21.7 10.4 No. 10 . Cc: _ 6.8 18.8 No. 20 Natural Moisture Content: No. 40 14.2 Remarks: $D_{10} = 0.2mm$ $D_0 = 6.6 \text{mm}$ Dkn = 21.0mm No. 60 11.2 9.1 No. 100 No. 200 7.5 SAND GRAVEL CLAY SILT FINE MEDIUM COARSE FINE COARSE SIEVE SIZES #200 #100 #60 #40 #30 #20 #16 #10 #8 #4 3/8" 1/2" 3/4" 1" 11/2" 2" 3" 100 90 80 70 PERCENT SMALLER 60 50 40 30 20 10 0 .0005 .001 .002 .01 .02 0.2 .005 .05 0.1 0.5 1.0 2.0 5.0 10 20 50 **GRAIN SIZE - MILLIMETRES**

PARTICLE - SIZE ANALYSIS OF SOILS

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PERCENTAGE SIEVE Paulatuk Granular Resources Study PASSING Project: 3″ 94.3 0701-10526 2″ 92.6 Project Number: 11/2" 1991 03 30 86.3 Date Tested: Borshole Number: PL91TP06 1" 76.5 68.3 2.4m 3/4" Depth:_ 54.7 GRAVEL AND SAND (GP) - trace silt and clay 3/8" Soil Description:. 46.1 38.7 No.4 Cu: 39.4 0.17 No. 10 . Cc: 2.5 30.9 No. 20 % **Natural Moisture Content:** 15.3 No. 40 **Remarks:** $\mathbf{D}_{\mathbf{0}} = \mathbf{0.8mm}$ $D_{10} = 0.31 \text{mm}$ = 12.0mm 6.5 No. 60 Pka . 2.9 No. 100 No. 200 2.0 GRAVEL SAND CLAY SILT FINE MEDIUM FINE COARSE COARSE SIEVE SIZES 3/8" 1/2" 3/4" 1" 11/2" 2" #200 #100 #60 #40 #30 #20 #16 #10 #8 3 100 90 80 70 PERCENT SMALLER 60 50 40 30 20 10 0 50 .0005 .001 .002 .005 .01 .02 .05 0.1 0.2 0.5 1.0 2.0 5.0 10 20 **GRAIN SIZE - MILLIMETRES**

PARTICLE - SIZE ANALYSIS OF SOILS

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PERCENTAGE Paulatuk Granular Resources Study **SIEVE** PASSING Project: 100.0 3″ 94.5 0701-10526 2" Project Number: . 1991 03 30 90.9 1¹/2" Date Tested: 77.5 PL91TP09 1″ **Borehole Number:** 71.3 2.1m 3/4" Depth: __ 52.5 GRAVEL AND SAND (GP) - trace silt and clay 3/8" Soil Description:. 42.6 37.5 No.4 Cu: 34.2 0.5 No. 10 Cc: 3.7 22.0 No. 20 **Natural Moisture Content:** % 11.2 No. 40 Remarks: 8.3 $D_{10} = 0.32mm$ **P**60 = 12.0 mm= 1.4 mm**B**0 No. 60 5.5 No. 100 4.4 No. 200 SAND GRAVEL CLAY SILT FINE MEDIUM COARSE FINE COARSE SIEVE SIZES #100 #60 3/2" 1/2" 3/4" 1" 11/2" 2" #200 #40 #30 #20 #16 #10 #8 3 #4 100 90 80 70 PERCENT SMALLER 60 50 40 30 20 10 0 .0005 .001 .02 0.2 5.0 20 50 .002 .005 .01 .05 0.1 0.5 1.0 2.0 10 GRAIN SIZE - MILLIMETRES

PARTICLE - SIZE ANALYSIS OF SOILS

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PARTICLE - SIZE ANALYSIS OF SOILS

Project	. Paulat	uk Granu	lar Re	esources	s Sti	ıdy			SIE	VE	PERC	ENTAGE SSING	
-									3	*		100.0	
Project	roject Number:0701-10526							2	**		96.8		
Date T	te Tested: 1991 03 30							- 1 ¹ /	2"		86.0		
Poreho	Borahole Number: PL91TP10						- 1	**		73.2			
Daneth		2.4m							3	4"		65.7	
Depui.		GRAVEL A	ND SA	ND (GW)	- tı	race	silt		- 3	8"		53.7	
5011 De	scription:	28.0							No	. 4		45.7	
	C	u: <u>2000</u> 2.4							- No	10		36.8	
	C	c:							- No	No 20		22.3	
Natura	l Moisture Co	ontent: 2.J					· · · <u></u>	9		No. 40		8.0	
Remar	ks:									No. 40		0.0	
. <u> </u>	$D_{10} = 0$	0.50mm	<u> </u>	= 1.3m	n	<u>L</u>	= 14	. Omm		. 60	4.2		
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									No.	200		2.3	
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PERCENT SMA ---11 50 -40 30 20 -10 0 .0005 .001 .002 .02 .005 .01 .05 0.1 0.2 0.5 1.0 2.0 5.0 10 20 50 **GRAIN SIZE - MILLIMETRES**

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0701-10526 March, 1991

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TABLE F-1

SUMMARY OF PETROGRAPHIC ANALYSIS PAULATUK GRANULAR RESOURCES STUDY PL91TP01 @ 0.6m

ROCK TYPE	Petrographic	20 - 14 mm	14 - 10 mm	10 - 5 mm				
	Multiplier	% in fraction	% in fraction	% in fraction				
GOOD								
QUARTZITE	1	22.8	6.2					
SANDSTONE	1		7.3	27.3				
GNEISS	1	9.8	6.5	1.6				
SCHISTE	1		6.7	4.9				
VOLCANIC	1	1.7	2.7	3.8				
FAIR								
CHERT	3	3.4	3.5	4.4				
DOLOMITE - medium	3	18.0	25.9	31.8				
SANDSTONE dolomitic	3	38.4	32.1	14.1				
SILTSTONE hard	3		3.1					
POOR								
DOLOMITE - soft	6			5.1				
SANDSTONE - brittle	6	2.8	5.4	6.5				
COATINGS	6			0.4				
DELETERIOUS								
CLAY IRON STONE	10		0.5					
SHALE	10	3.2						
TOTAL		100%	100%	100%				
	262	261	261					
2 HOGHAI HIG HOMDEN	EUL 	201	201					
PERCENTAGE PER FRACTI	5.0%	14.6%	12.1%					
				-				

WEIGHTED AVERAGE PETROGRAPHIC NUMBER = 261

0701-10526 March, 1991

TABLE F-2

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SUMMARY OF PETROGRAPHIC ANALYSIS PAULATUK GRANULAR RESOURCES STUDY PL91TP02 @ 1.5m

ROCK TYPE	Petrographic	25 - 20 mm	20 - 14 mm	14 - 10 mm	10 - 5 mm
	Multiplier	% in fraction	% in fraction	% in fraction	% in fraction
GOOD					
QUARTZITE	1	29.9	50.1	54.0	67.0
SANDSTONE	1	16.3	6.4	7.6	7.5
DOLOMITE	1	17.5	11.0	14.9	7.3
GNEISS	1	8.1	9.1	3.7	3.6
VOLCANIC	1	3.4			
SCHIST	1	4.0	1.7	5.4	0.5
FAIR					
CHERT	3	17.0	20.3	14.4	14.1
GNEISS - weathered	3	1.0			
CLAY IRONSTONE - hard	3	2.0			
POOR					
CLAY IRONSTONE - med	6	0.8	1.0		
COATINGS	6		0.4		
TOTAL		100%	100%	100%	100%
PETROGRAPHIC NUMBER	144	148	129	128	
			05 50		
PERCENTAGE PER FRACTIC	12.5%	10.5%	25.5%	13.2%	

WEIGHTED AVERAGE PETROGRAPHIC NUMBER = 134

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ORGANIC CONTENT (Alaska Test Method T-6)								
Project: Paulafak Project No.: 701 - 1057 Sample Description:	6 <i>1241</i> 14 26	<u>Cak</u> Date	e Tested:	97-05-0,	Ву:	<u></u>		
	- 0							
Borehole No.	TP.	-/	7 P-	2				
Sample No.								
Depth	V,E	m	1.5	<i>k</i> n				
TRIAL	1	2	1	2	1	2		
Crucible No.	4	7	11	12				
Mass of Crucible & Soil Before Burning	51.77	54.88	55.54	55.85				
Mass of Crucible	17.87	17.67	17.34	21,92				
Mass of Original Sample (W)	33.90	37.21	38.20	33,93				
Mass of Crucible & Soil After Burning	51.20	54.30	54.83	55.22				
Mass of Crucible	17.87	17.67	17.34	21.92				
Mass of Residue (Ws)	3 3.33	36,63	37.43	33.30				
Organic Content	1.7	1.6	1,9	1.9				
Avg. Organic Content	/	.65	1.	9				
Organic Content = $\frac{W - Ws}{Ws} \times 100$								
Remarks:								
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