

Whitehorse Granular Inventory  
Whitehorse Area  
Whitehorse Yukon

0201-10539

March 1991  
EBA Engineering  
Consultants Ltd.  
Civil, Geotechnical and Materials Engineers

**Original Report**

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**WHITEHORSE GRANULAR INVENTORY  
WHITEHORSE AREA  
WHITEHORSE, YUKON**

0201-10539

March, 1991

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**WHITEHORSE GRANULAR INVENTORY  
WHITEHORSE AREA  
WHITEHORSE, YUKON**

submitted to:

**GOVERNMENT OF YUKON**

prepared by:

**EBA ENGINEERING CONSULTANTS LTD  
WHITEHORSE, YUKON**

0201-10539

March, 1991

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## 1.0 INTRODUCTION

The current Whitehorse Granular Inventory was prompted by the spring 1991 expiry of the commercial leases in the Ear Lake area of Whitehorse and the subsequent responsibility of the Government of Yukon to identify areas within the Whitehorse city limits to which the Ear Lake operators may relocate.

The scope of work was defined by Ms. A. MacDonald; A/Manager, Lands Planning and Policy in a proposal request dated 1990 11 16 (YTG File No. MA-2200-1) and authorization to proceed was received from Mr. R. Burnett, Planning Technician during the first week of December, 1990.

### 1.1 Scope of Work

The project methodology defined in the EBA proposal dated 1990 11 26 and clarified at the project initiation meeting in December, 1990 is summarized as follows:

- (a) Collect all available information pertaining to location, size, quality and quantity of material, as well as land status and tenure of all granular source areas delineated within the Whitehorse municipal boundaries.
- (b) Identify areas in which quarry operations are presently located.
- (c) Identify deposits which are presently undeveloped, but warrant further investigation.
- (d) Provide recommendations and/or alternatives regarding the relocation of the three current Ear Lake operators.

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## 1.2 Acknowledgements

EBA would like to acknowledge the assistance of Mr. Ross Burnett and Ms. Gemma Laska of the Land Planning Section of YTG Community and Transportation Services for the procurement and use of existing reports pertinent to this project, as well as the provision of all maps utilized for the formal presentation. EBA would also like to thank Ms. Leslie Gilbert and Michael Kloppenburg of D. Nairne & Associates for supplying guidelines and insight into quarry management and future land use.

## 2.0 **METHODOLOGY**

### 2.1 Collection of Existing Information

The validity of any granular resource database is dependant upon the accuracy, pertinence and quantity of data available for each source. Existing information collected, reviewed and utilized for this project included similar studies completed in the past, related geotechnical investigations performed within or close to source locations, as well as processing and production records of aggregates produced at current quarry operations and utilized on local construction projects since 1985.

### 2.2 Air Photo Interpretation

To assist in locating and delineating known and unknown granular sources within the Whitehorse municipal boundaries, current air photos were utilized. The air photos were also utilized to assist in updating the status of sites listed in previous quarry inventories. Air photos utilized included 1:32000 scale air photos flown on 1986 09 04 (photos WP 8612-2-16 to 32) and 1:8000 photos flown on 1989 07 12 (photos A27495-11 to 46 and

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65 to 94). All photos are on loan from YTG Community and Transportation Services - Transportation Engineering Branch.

### 2.3 Report Catalogue Compilation

As stated in our proposal, this project was to be completed utilizing an existing PC-based database format which is already in place within Federal and Territorial Government agencies. This existing format normally consists of three components: a Report Catalogue summarizing existing studies and reports, a Granular Source Catalogue containing quantitative and qualitative details for each granular source, and a Testhole Database presenting detailed testhole logs from geotechnical investigations completed. It was originally proposed that only the Source Catalogue be established for this project. However, upon review of the existing reports it was established that much of the information presented and recommendations made remains pertinent and warrants cataloguing. In Appendix A, the report catalogue Data Dictionary as well as the Report Catalogue made up of eleven existing reports is presented. The Report Catalogue provides study details and allows the user to cross reference a specific source(s) with a pertinent existing report(s).

### 2.4 Granular Source Catalogue Preparation

The culmination of information obtained through existing report review, air photo interpretation and conversations with Whitehorse area contractors is the generation of the Granular Source Catalogue presented in Appendix B. As well, a 1:32000 scale photomosaic of the Whitehorse area is presented as Drawing No. 10539-B-01, showing the locations of the twenty-two granular sources delineated. Preceding the source data sheets is the Granular Source Catalogue Data Dictionary briefly explaining each entry of the fields in the granular source database.

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## 2.5 Field Work

Although no subsurface work has been completed in conjunction with the project to date, the majority of the sources shown on Drawing No. 10539-B-01 in Appendix B was visited to assist in determining specific characteristics of the area which could not be distinguished through air photo interpretation or was not dealt with in previous studies.

## 3.0 GENERAL DISCUSSION OF PAST PROJECTS

### 3.1 Previous Report Summary

In general, findings from all previous reports which have dealt with the identification of granular reserves within the Whitehorse area can be summarized as follows:

- 1) The Hilker 1977 and EPEC 1978 reports identified five potential gravel reserve areas exclusive of the Ear Lake area. These areas along with the McLean Lake Quarry Area are listed in Table No 1
- 2) The Stanley McLean Lake Gravel Quarry Area Feasibility Study, 1984, also listed the Kulan Industrial Quarry area and the McLean Lake area as additional reserves.
- 3) The 1980 EPEC Report "Quarry Management Study, South Access Area, City of Whitehorse" suggests that since all significant reserves within an eight kilometre radius of the Ear Lake Area (with the exception of the McLean Lake Quarry Area) involve land use and aesthetic conflicts, the South Access area granular

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reserves should be fully exploited in accordance to the objectives presented therein.

TABLE 1

## GRANULAR RESERVES DELINEATED IN PREVIOUS STUDIES

SOURCE LOCATION	HILKER REF. NO.	EPEC QUARRY INVENTORY NO.	EBA 1991 SOURCE NO.
Area West of McPherson Subdivision	PWA-1	Pits 1 & 2	WHSE-01
North of Crestview (Yukon/Alsaska Truck Depot)	PWA-2	Pits 4 & 5	WHSE-03
Takhini Area	PWA-3	Pit 9	WHSE-09
McIntyre Creek Pumphouse	PWA-4 & 5	Pit 8	WHSE-07
McIntyre Creek and Mountainveiw Drive	PWA-6 & 7	--	WHSE-08
McLean Lake Area	--	--	WHSE-13
Kulan Industrial	--	--	WHSE-05

#### 4.0 CONCLUSIONS AND RECOMMENDATIONS

##### 4.1 General

Presently, within the Whitehorse municipal boundaries, three areas exist which are zoned for granular material extraction and processing. These areas are the Ear Lake area, the McLean Lake Quarry Area, and the depleted quarry site located on the north-west corner of the Kulan Industrial Subdivision. As well, a fourth area located

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approximately 1.6 kilometres south of the Fish Lake Road along the Whitehorse Copper Haul Road is currently leased to Skookum Construction for gravel extraction.

There are presently three operators in the Ear Lake area and seven lease holders in the McLean Lake area. The majority of the other existing pits in the Whitehorse area have either undergone reclamation or are dormant. The Ear Lake and McLean Lake Quarry Areas are evaluated in the following sections.

#### 4.2 Ear Lake Evaluation

Existing information establishes that significant quantities of high-quality, processible raw aggregates still exist in the Ear Lake Granular Quarry Area. Since the 1979 R.M. Hardy Report entitled "Whitehorse Gravel Survey, Alaska Highway and South Access Road" estimated that 6,500,000 cubic metres of gravel exists in the Ear Lake area, approximately fifteen per cent has been extracted. Dependant upon the actual ultimate land use plan adopted and enforced, gravel extraction can conceivably continue for ten to fifteen more years with little impact on future land use potential.

0201-10539 - Ear Lake Borrow Source Area, Whitehorse, Yukon  
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TABLE 2  
 Qualitative and Quantitative Assessment of Ear Lake Borrow Area

AGGREGATE PRODUCTS SUPPLIED	OPERATOR		
	Annie Lake Trucking	Skookum Construction	Yukon Enterprises
Pit Run Gravel	X	X	X
20 mm Crush	X	X	
50 mm Crush		X	X
16 mm Asphalt Agg.	X	X	X
12.5 mm Asphalt Agg.		X	X
Coarse Concrete Agg.	X		X
Fine Concrete Agg.	X	X	X
Blend Sand	X		
Estimated Quantities Remaining (as of Jan. '91)	750,000	1,200,000	480,000

- NOTES:
- 1) Aggregates in this borrow area generally consist of equal volumes of gravel and sand sizes.
  - 2) Quantities of blend sand may be depleted within 5 years.



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Presented in Table 2, preceding page, is a summary of aggregate products supplied by each of the present Ear Lake area operators and a conservative estimate of quantities remaining. Detailed aggregate analyses for the products processed is presented in Appendix C and detailed source information is presented in the Granular Source Catalogue in Appendix B under Source Designation Whse-11.

#### 4.3 McLean Lake Quarry Area Evaluation

The McLean Lake Quarry Area is divided into Stages 1 and 2. Stage 1 and the north end of Stage 2 were subdivided into 25 leases of various sizes. There are currently seven lease holders occupying fourteen leases, a single lease designated for public use and ten leases unoccupied. Unoccupied leases A to G contain material which is either too fine or silty for large-scale aggregate production while leases L to O contain insufficient volumes due to shallow bedrock elevations.

The hummocky topography found in Stage 1 also exists in Stage 2 resulting in areas of shallow bedrock and varying aggregate quality. However, areas containing sufficient quantities of good quality aggregates in which to establish large-scale aggregate operations do exist.

#### 4.4 Recommendations for Relocation

Ideal conditions for establishing a large scale aggregate operation can be summarized as follows:

- 1) Area must occupy sufficient space to operate while maintaining an adequate buffer zone along existing roadways.

- 2) Large reserves of aggregates of suitable quality from which to produce specific aggregate types (i.e., asphalt, basecourse, concrete aggregate) should exist.
- 3) No conflicts should exist with residential or recreational developments, land claims negotiations, or ecologically and environmentally sensitive areas.
- 4) If water for washing purposes and hydro-electric power is available operating costs would be eased.
- 5) Haul distance to areas where the granular material will be utilized must be considered.

None of the sources delineated in this study completely satisfy all of the above criteria; however, presented in the following section is a summary of the most preferential locations in which to locate an aggregate production operation.

- 1) Ear Lake Area  
(WHSE-11)
  - Approximately 30 hectare site
  - Estimated reserves of 2,400,000 cubic metres
  - Zoned QR but has been listed as having minor conflicts with recreational land use as well as being within the Whitehorse Watershed
  - Hydro and water supplies are well-established
  - Approximate haul distance of 5 kilometres to downtown Whitehorse
  - Recommended that existing operators remain in their present locations

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## 2) McLean Lake Area

(WHSE-13)

- Approximately 75 hectare site
- Estimated reserves of 2,900,000 cubic metres
- Zoned QR with no land use conflicts
- Stage 1 has several operators in place leaving the central and south portions of Stage 2 undeveloped
- Estimated Stage 2 resources of 1,000,000 cubic metres
- Isolated areas with shallow bedrock in Stage 2
- Water in area but no hydro
- Approximate haul distance to downtown Whitehorse is eight kilometres

## 3) Area West of McPherson Subdivision

(WHSE-01)

- Approximately 280 hectare site
- Estimated reserves of 5,600,000 cubic metres
- Section designated as Area "A" has potential Land Claims and residential development conflicts
- Area "B", located west of Area "A", appears to have no potential conflicts
- Water would have to be pumped from the Takhini River or a well would need to be drilled
- Hydro is close to area
- Approximate haul distance to downtown Whitehorse is 14 kilometres

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Smaller areas which would be acceptable for a single operator are:

- 4) Yukon Alaska Truck Depot Area  
(WHSE-03)
  - Approximately 12 hectare site
  - Estimated reserves of 500,000 cubic metres
  - Proximity to Crestview (less than 2 kilometres) and bordering on Yukon/Alaska Transport Yard are potential land use conflicts
  - Water and hydro are available to area
  - Approximate haul distance to downtown Whitehorse is 12 kilometres
  - Excellent source if co-existence can be established
  
- 5) Kilometre 1.6 on Whitehorse-Copper Haul Road  
(WHSE-20)
  - Lease is 6.3 hectares in size and source is approximately 10 hectares
  - Estimated reserves of 200,000 cubic metres in source
  - Lease held by Skookum Construction expires in 1991 (no other conflicts)
  - No hydro but water is close to site
  - Approximate haul distance to downtown Whitehorse is 12 kilometres

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#### 4.5 Areas Recommended for Additional Field Work

Six areas were delineated through air photo interpretation in which no geotechnical information is available. Further delineation was hampered by lack of access due to winter conditions or present land status and/or tenure. The following lists these additional sites:

- 1) Area East of McLean Lake  
(WHSE-22)
  - Appears to be a significant deposit located approximately 500 metres east of the present McLean Lake Quarry Area
  - Proximity to existing quarry area as well as water supply in area make this area desirable as an additional aggregate source and may warrant further investigation.
  
- 2) Squatters' Row Area  
(WHSE-12)
  - Deposit extends from beneath the Paddle Wheel Village on the east side west to the Squatters' Row access road
  - Presently zoned open space, this area has significant quantities of granular material
  - Squatters residing in area would need to be dealt with prior to further investigation
  - Proximity to Alaska Highway and South Access make haul distances quite attractive

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- 3) Cadet Camp Area  
(WHSE-18)
  - Large alluvial terrace of significant size indicates ample quantities of gravel
  - Close to Wolf Creek for water supply
  - Eighteen kilometre haul to downtown Whitehorse
  - Existing conflicts with cadet camp and proximity to Wolf Creek Subdivision are inhibiting factors.
  
- 4) Intersection of Wolf Creek and Cowley Creek  
(WHSE-19)
  - Large deposit; however, material may be too fine for aggregate production
  - Significant haul distance to other areas of Whitehorse are prohibitive
  
- 5) Croucher Creek  
(WHSE-21)
  - Area is located on east side of Yukon River
  - Deposit could not be properly delineated due to lack of winter access
  - If second bridge across the Yukon River into downtown Whitehorse is built this area could become attractive
  - There are potential Land Claim conflicts in the source area and along the Long Lake Road

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- 6) Rest Stop Area at North End of Whitehorse  
(WHSE-02)
  - Deposit is close to Yukon Alaska Truck Depot deposit
  - No existing information indicating material type or quantities
  - Potential Land Claim conflicts and minimal buffer along Alaska Highway may inhibit development

#### 4.6 Summary of Recommendations

- 1) Ear Lake operators should be allowed to extract material within guidelines presented in accepted ultimate land use plan.
- 2) Primary option for relocation should be to the McLean Lake Quarry Area. If all operators were located in this area, no advantages due to haul distance would exist. Also, resource management of one area is easier than the management of numerous quarry sites.
- 3) Area west of McPherson Subdivision should be protected as a future quarry development area.
- 4) It may be desirable to allow aggregate extraction and/or production in smaller sources or existing quarries located close to areas undergoing reconstruction, if no other land use conflicts exist. This could conceivably reduce construction costs as well as inconveniences caused by longer hauls through existing

subdivisions. This is particularly applicable to asphalt production where maintaining proper placement and compaction temperatures is related to haul distance.

## 5.0 CLOSURE

The Granular Source and Report Catalogues presented herein present the basis of a resource database that should be occasionally updated. By doing so, future information which is pertinent to each source can be included, thus monitoring the granular reserves in the Whitehorse area. Acting as the central agency, EBA Engineering Consultants Ltd. would like to offer our services for updating this database as necessary.

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

Yours truly,  
EBA Engineering Consultants Ltd.



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

MCP/JRT/rz



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



GRANULAR RESOURCES DATABASE  
DATA DICTIONARY—REPORT CATALOGUE

PART A: STUDY REFERENCE AND LOCATION

AA - STUDY NUMBER:

A unique study identifier number which serves as a link to other databases (e.g. Source Catalogue, ESEBase Borehole database). This number consists of an eight-character field, with the first four characters an alphabetic prefix representing the geographical location of the database, followed by a dash and a three digit study number. The three digit number is derived from the chronological listing of all reports containing granular resource data from the study area.

(e.g. NAHC-001: North Alaska Highway Corridor- earliest report)

AB - YEAR:

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

AC - SPONSOR:

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

AD - REPORT TITLE:

The title of the original report.

AE - CONTACT:

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.

AF - CONTRACTOR:

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

AG - DATA QUALITY:

A subjective evaluation of the usefulness of the data in the report, relative to the preparation of the database.

AH - FILE NUMBER:

The contractor's file number.

## AI - LOCATION MAP:

The location of the study area as identified using the Universal Transverse Mercator (UTM) co-ordinates of the southwestern and northeastern corners of a geographic block enclosing the study area. Separate data fields are included for the UTM zone and grid line of the minimum (western and southern) and maximum (eastern and northern) extremities of the block.

## AJ - SITE PLAN:

A brief note discussing whether or not site plans were included in the report.

## AK - 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.

## AL - 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.

## AM - 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 blue-line).

## AN - 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 sites within the main study area (e.g. paper copy; mylar original, folded blue-line).

## 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 - 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)

## AQ - 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.

## AR - 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.

## AS - 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, ect.).

## AT - 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).

## AU - MINIMUM ZONE:

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

## AV - MINIMUM EASTING:

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

## AW - MINIMUM NORTHING:

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

## AX - MAXIMUM ZONE:

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

## AY - MAXIMUM EASTING:

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

## AZ - MAXIMUM NORTHING:

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

## A1 - SOURCE NUMBERS:

A cross - reference field (to the source catalogue) which lists the source numbers of the sources included in the report. (See Source Catalogue Data Dictionary for definition of the Source Number.)

## A2 - OTHER SOURCES INVESTIGATED:

The location of other sources included in the report that were not applicable to this granular resource study.

PART B: STUDY DETAILS

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 or size of the study in terms of number of potential borrow sites identified, number of testpits or boreholes, or total number of line kilometers 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 sites. (e.g. 250 m E-W, 500 m N-S; 10 - 15 km)

BH - PROGRAM 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 departments/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).



GRANULAR RESOURCE INVENTORY  
 WHITEHORSE AREA, YUKON  
 REPORT CATALOGUE DATA SHEET

===== PART A: STUDY REFERENCE AND LOCATION =====

STUDY NUMBER : WHRP-002	YEAR : 1978	
SPONSOR : City of Whitehorse	REPORT TITLE : Quarrying operations within the City of Whitehorse	
CONTACT : Mr. Ross Burnet (YTG)		
CONTRACTOR : EPEC Consulting Western Ltd.		
FILE NUMBER : 6950-003-02-11	DATA QUALITY : Good	
LOCATION MAP : Airphoto mosaic	SITE PLAN : None	
NUMBER : 1	NUMBER : None	
FORMAT : Orthophoto	FORMAT : n/a	
SCALE : 1:2 400	SCALE : 1:	
DIGITIZ NO. :	DIGITIZ NO.:	
ARCHIVING : YTG Lands Branch	ARCHIVING : n/a	
MINIMUM ZONE : 8	MINIMUM EASTING: 485000	MINIMUM NORTHING: 6715000
MAXIMUM ZONE : 8	MAXIMUM EASTING: 507000	MAXIMUM NORTHING: 6745000
SOURCE NO(S) : Inventory of 49 existing pits within Whitehorse		

===== PART B: STUDY DETAILS =====

STUDY TYPE : Land Use/Reclamation Study	
STUDY SCOPE : Regional/Many sites	
STUDY SIZE : 49 existing pits	
SURVEY LEVEL : Reconnaissance	
SURVEY PATTERN: n/a	
SURVEY SPACING: n/a	
PROGRAM LENGTH: Unknown	SEASON : Unknown
EQUIPMENT TYPE: n/a	
PENETRATION(m): n/a	
RESOLUTION : n/a	
SAMPLING/RECORDING	
RATE : n/a	
QUALITY : n/a	
TYPE(S) : n/a	
SIZE : n/a	
INTERPRETATION/TESTING LEVEL : No testing	
REPORT LEVEL : Summary/Formal Evaluation	
REPORT DISTRIBUTION : Specific Govt. Dept.'s	
DATA ARCHIVING : YTG Lands Branch	
EBA PROJECT NUMBER : 0201-10539	



















GRANULAR RESOURCES DATABASE  
DATA DICTIONARY — SOURCE CATALOGUE

PART A: LOCATION AND STATUS

AA - SOURCE NUMBER:

Each source has been assigned a unique seven-character alphanumeric source number, which serves as a link to other databases. The number consists of six digits representing the kilometre post (to tenths) along the Alaska Highway where the source is located, and an alphabetic suffix (L-Left; R-Right; B-Both) to denote source location relative to the highway centreline while facing the direction of increasing kilometre posts. (e.g. 1798.0B).

AB - STUDY NUMBER:

A cross reference field showing the Report Number(s) (in the Report Catalogue) in which the source is described, and from which data was obtained to prepare the Source Catalogue Data Sheet.

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. 115 k/7)

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 the numerator is unity. (e.g. 250000)

The next seven 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.

## AF - UTM ZONE/EASTING:

The UTM zone in which the deposit occurs, and the north-south oriented UTM grid line passing through the centre of the deposit. (e.g. 7-381987)

## AG - LOCATION

The descriptive location of the source relative to a geographic feature. (e.g. 6 km N of White River).

## AH - NORTHING:

The east-west oriented UTM grid line passing through the centre of the deposit. (e.g. 7548335)

## 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. Burwash Creek)

## AJ - CORRIDOR NUMBER AND NAME:

The name of the transportation route within whose corridor the deposit occurs. (e.g. Robert Campbell Highway; Alaska Highway)

## 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. The direction (left or right) is determined when facing in the direction of increasing kilometre-posts. (e.g. 350 left)

## AM - SOURCE ACCESS:

A short description of the most practical route to the source.

## AN - DISTANCE ACCESS:

The distance in metres 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.

## AO - CONDITION:

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

## AP - AREA:

The total estimated 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 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. 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. borrow)

## 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, fair, good)

## 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 INVEST 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 catalogue.

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 slopes on and immediately adjacent to the deposit in terms of type (e.g. simple; compound; complex), degree (e.g. flat; gentle; moderate; steep; precipitous) and direction (e.g. GENTLE/NW).

## 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 - SOURCE 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. Vx, Vr)

## 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: mm/dd/yy (e.g. 09/04/80).

## 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)

## BU - LANDFORM:

The type of surficial feature comprising the subject granular materials, within which geologic conditions are interpreted to be relatively uniform or are variable within 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, well-graded; 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 sub-surface characteristics and general accessibility. (e.g. unknown; unsuitable; poor; fair; good; excellent)

PART C: TEST RESULTS AND MATERIAL 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 averages 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 average USC class of material types sampled from the deposit.  
(e.g. SM/SP)

## CF - MOISTURE(%): RESULTS:

The minimum, average and maximum soil Moisture Content, based on percentage of dry soil weight, for the collection of samples tested. (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 (4.76 mm - 75 mm dia.) is determined by particle-size analysis testing. (e.g. 05-45-85)

## CI - SAND(%):

The minimum, average and maximum percentage of sand-sized material (0.074 mm - 4.76 mm dia.) is determined by particle-size analysis testing. (e.g. 25-37-52)

## CJ - FINES(%):

The minimum, average and maximum percentage of silt- and clay-sized material (under 0.074 mm dia.) is determined by particle-size analysis testing. (e.g. 02-07-12)

## CK - OVERSIZE(%):

The minimum, average and maximum percentage of oversized material; (over 75 mm dia.), 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 (um)

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

## CM - PETROGRAPHIC ANALYSIS - NO. OF TESTS:

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.

## 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 in the various classes of the North Alaska Highway database are presented as PROBABLE VOLUME.

**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 rip rap 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 from 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 useable 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 database contents.

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. 04/25/89)

GRANULAR RESOURCE INVENTORY  
WHITEHORSE AREA, YUKON  
SOURCE CATALOGUE DATA SHEET

----- PART A: LOCATION AND STATUS -----

SOURCE NUMBER : WHSE-01      STUDY NO. : WHRP-002, WHRP-003, WHRP-004  
NTS MAP REFERENCE : 105D/14      DIGITIZ NO. :      MAP SCALE : 1:50 000  
UTM    ZONE-EASTING : B-487500      LOCATION : NW of Mayo Rd Turnoff  
UTM    NORTHING : 6742100  
LOCAL NAMES(S) : West of McPherson Subv'n  
CORRIDOR NO./NAME : Alaska Highway  
KILOMETRE POST : 1486.7      OFFSET(m) : 500 m Right

SOURCE ACCESS : Along Old Highway Alignment  
ACCESS DISTANCE (m) : 200      CONDITION : Good  
AREA (ha) : 280      SITE SCALE: 60000      DIGITIZ NO:

LAND TENURE : Zoned RC/OS      STATUS : Undeveloped/Active  
PAST USE - SOURCE : Borrow/Crushing      STOCKPILE - TYPE : 20 mm Crush  
PERFORMANCE RATING : Good      - QUANTITY : <1000 m3

----- PART B: SOURCE INVESTIGATION AND DESCRIPTIVE INFORMATION -----

INVESTIGATION LEVEL : Exploration/Delineation      LAST INVEST. DATE : 1978  
GEOPHYSICAL DATA : EM34 and EM31      TEST HOLE DENSITY (#/ha) : 0.17  
BOREHOLES - NUMBER : 26      TESTPITS - NO. : 20      EXPOSURES - NO. : 2  
- DEPTH (m): 1.3:1.9:4.0      - DEPTH (m): 0.3:4:10      - DEPTH (m) : 3:7:10

DATA QUALITY : Good  
SOURCE TOPOGRAPHY : Hummocky      SLOPE : Gentle to the North

AREA DRAINAGE : Well-drained  
SOURCE VEGETATION : Mature Pine, Spruce  
PERMAFROST FEATURES : None  
ACTIVE LAYER (m) : N/A  
GENERIC ORIGIN : Glaciofluvial  
GRANULAR - TYPE : Gravel/Sand  
- THICKNESS (m) : >20 m

DESCRIPT. DATE : 03/10/91  
LANDFORMS : Terrace  
OVERBURDEN - TYPE : Silt  
- THICKNESS (m): 0.0:0.2:0.5  
UNDERBURDEN : Unknown

DEVELOP. CONSTRAINT : Potential Land Claims  
DEVELOP. POTENTIAL : Excellent

----- PART C: TEST RESULTS AND MATERIAL QUANTITY -----

USC - NUMBER : 2      MOISTURE CONTENT - NUMBER : 0  
- CLASS : GW      - RESULTS: N/A  
SIZE ANALYSIS - NO. : 20      GRAVEL (%) : 43:62:82      SAND (%) : 14:34:54      FINES (%) : 1:4:11  
- OVERSIZE (%) : Unknown      D-50 (um) : Unknown

PETROGRAPHIC ANALYSIS-NO. OF TESTS: 12      RESULTS: 102 to 149

OTHER TESTS (see DATA DICTIONARY): Sod.Sulph.Soundness 5 ests:4% Max.Loss

MATERIAL QUANTITY (All in cubic metres)      CLASS 1 : 25 000 000  
TOTAL RECOVERABLE : 5 600 000      CLASS 2 : 16 000 000  
ANNUAL RECOVERABLE : N/A      CLASS 3 : 10 000 000  
CLASS 4 : 5 000 000  
CLASS 5 : 0  
TOTAL VOLUME : 5 600 000

RECORD UPDATED BY : EBA Engineering Consultants Ltd.  
LAST UPDATE : 03/15/91

EBA PROJECT NUMBER : 0201-10539



GRANULAR RESOURCE INVENTORY  
WHITEHORSE AREA, YUKON  
SOURCE CATALOGUE DATA SHEET

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PART A: LOCATION AND STATUS  
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SOURCE NUMBER : WHSE-03                    STUDY NO. : WHRP-001, WHRP-002  
NTS MAP REFERENCE : 1050/14                DIGITIZ NO. :                    MAP SCALE : 1:50000  
UTM ZONE-EASTING : 8-490600                LOCATION : 600 m North of Crestview  
UTM            NORTHING : 6740000  
LOCAL NAMES(S) : Yukon Alaska Truck Depot  
CORRIDOR NO./NAME : Alaska Highway  
KILOMETRE POST : 1485.1                    OFFSET(m) : 100 m

SOURCE ACCESS : Through Yukon Alaska Truck Depot Yard  
ACCESS DISTANCE (m) : 100                    CONDITION : Excellent  
AREA (ha) : 12                                SITE SCALE:                    DIGITIZ NO:

LAND TENURE : MH/OS                                STATUS : Inactive  
PAST USE - SOURCE : Borrow                    STOCKPILE - TYPE : N/A  
PERFORMANCE RATING : Good                                ~ QUANTITY : N/A

-----  
PART B: SOURCE INVESTIGATION AND DESCRIPTIVE INFORMATION  
-----

INVESTIGATION LEVEL : Investigation/Delineation                    LAST INVEST. DATE : 1969  
GEOPHYSICAL DATA : None                                TEST HOLE DENSITY (#/ha) : 0.4  
BOREHOLES - NUMBER : 0                                TESTPITS - NO. : 4                    EXPOSURES - NO. : 1  
                              - DEPTH (m): N/A                                - DEPTH (m): 3.4:4.0:4.3                    - DEPTH (m) : 12 m  
DATA QUALITY : Good

SOURCE TOPOGRAPHY : Hummocky                                SLOPE : Towards the East

AREA DRAINAGE : Good to Poor

SOURCE VEGETATION : Mature Pine Spruce and Aspen

PERMAFROST FEATURES : None

ACTIVE LAYER (m) : N/A

GENERIC ORIGIN : Glaciofluvial

GRANULAR - TYPE : SP

- THICKNESS (m) : >8 m

DESCRIPT. DATE : 03/01/91

LANDFORMS : Terrace

OVERBURDEN - TYPE : Silt/Sand

- THICKNESS (m): 0.7:1.0:1.5

UNDERBURDEN : Unknown

DEVELOP. CONSTRAINT : Truck Depot Location/ Land Claims

DEVELOP. POTENTIAL : Good

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PART C: TEST RESULTS AND MATERIAL QUANTITY  
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USC - NUMBER : 1                                MOISTURE CONTENT - NUMBER : 0  
                              - CLASS : SP                                - RESULTS: N/A  
SIZE ANALYSIS - NO. : 1                                GRAVEL (%) : 47                    SAND (%) : 51                    FINES (%): 2  
                              - OVERSIZE (%) : Unknown                    0-50 (um) : 5000

PETROGRAPHIC ANALYSIS-NO. OF TESTS: 0                    RESULTS: N/A

OTHER TESTS (see DATA DICTIONARY): 0

MATERIAL QUANTITY (All in cubic metres)

CLASS 1 : 250 000

CLASS 2 : 250 000

TOTAL RECOVERABLE : 500 000

CLASS 3 : 0

ANNUAL RECOVERABLE : N/A

CLASS 4 : 0

CLASS 5 : 0

TOTAL VOLUME : 500 000

RECORD UPDATED BY : EBA Engineering Consultants Ltd.

LAST UPDATE : 03/15/91

EBA PROJECT NUMBER : 0201-10539

GRANULAR RESOURCE INVENTORY  
WHITEHORSE AREA, YUKON  
SOURCE CATALOGUE DATA SHEET

----- PART A: LOCATION AND STATUS -----

SOURCE NUMBER : WHSE-04                      STUDY NO. :  
NTS MAP REFERENCE : 1050/14                      DIGITIZ NO. :                      MAP SCALE : 1:50000  
UTM ZONE-EASTING : 8-490600                      LOCATION : West of Crestview Subd'n  
UTM NORTHING : 6738550  
LOCAL NAMES(S) : Crestview Subdivision  
CORRIDOR NO./NAME : Alaska Highway  
KILOMETRE POST : 1483.5                      OFFSET(m) : 650 m West

SOURCE ACCESS : Along Fire Break  
ACCESS DISTANCE (m) : 500                      CONDITION : Fair to Poor  
AREA (ha) : 70                      SITE SCALE: N/A                      DIGITIZ NO:

LAND TENURE : Zoned Open Space                      STATUS : Undeveloped  
PAST USE - SOURCE : Undeveloped                      STOCKPILE - TYPE : N/A  
PERFORMANCE RATING : Unknown                      - QUANTITY : N/A

----- PART B: SOURCE INVESTIGATION AND DESCRIPTIVE INFORMATION -----

INVESTIGATION LEVEL : Reconnaissance/Air Photo                      LAST INVEST. DATE : 1991  
GEOPHYSICAL DATA : None                      TEST HOLE DENSITY (#/ha) : 0  
BOREHOLES - NUMBER : 0                      TESTPITS - NO. : 0                      EXPOSURES - NO. : 0  
- DEPTH (m): N/A                      - DEPTH (m): N/A                      - DEPTH (m) : N/A

DATA QUALITY : Non-Existent  
SOURCE TOPOGRAPHY : Hummocky                      SLOPE : Towards the East  
AREA DRAINAGE : Well Drained

SOURCE VEGETATION : Mature Pine  
PERMAFROST FEATURES : None  
ACTIVE LAYER (m) : N/A                      DESCRIPT. DATE : 03/01/91  
GENERIC ORIGIN : Glaciofluvial                      LANDFORMS : Outwash  
GRANULAR - TYPE : Unknown                      OVERBURDEN - TYPE : Silt  
- THICKNESS (m) : Unknown                      - THICKNESS (m): Unknown  
UNDERBURDEN : Unknown

DEVELOP. CONSTRAINT : Close to Existing Subdivision  
DEVELOP. POTENTIAL : Poor

----- PART C: TEST RESULTS AND MATERIAL QUANTITY -----

USC - NUMBER : 0                      MOISTURE CONTENT - NUMBER : 0  
- CLASS : N/A                      - RESULTS: N/A  
SIZE ANALYSIS - NO. : 0                      GRAVEL (%) : N/A                      SAND (%) : N/A                      FINES (%) : N/A  
- OVERSIZE (%) : N/A                      D-50 (um) : N/A

PETROGRAPHIC ANALYSIS-NO. OF TESTS: 0                      RESULTS: N/A

OTHER TESTS (see DATA DICTIONARY): 0

MATERIAL QUANTITY (All in cubic metres)                      CLASS 1 : Unknown  
CLASS 2 : Unknown  
TOTAL RECOVERABLE : Unknown                      CLASS 3 : Unknown  
ANNUAL RECOVERABLE : N/A                      CLASS 4 : Unknown  
CLASS 5 : Unknown  
TOTAL VOLUME : Unknown

RECORD UPDATED BY : EBA Engineering Consultants Ltd.  
LAST UPDATE : 03/15/91

EBA PROJECT NUMBER : D201-10539

GRANULAR RESOURCE INVENTORY  
WHITEHORSE AREA, YUKON  
SOURCE CATALOGUE DATA SHEET

----- PART A: LOCATION AND STATUS -----

SOURCE NUMBER : WHSE-05 STUDY NO. :  
NTS MAP REFERENCE : 105D/14 DIGITIZ NO. : MAP SCALE : 1:50000  
UTM ZONE-EASTING : 8-490750 LOCATION : Kulan Industrial Sub.  
UTM NORTHING : 6737000  
LOCAL NAME(S) : Charlie Friday's Pit  
CORRIDOR NO./NAME : Alaska Highway  
KILOMETRE POST : 1481.6 OFFSET(m) : 800 m Left

SOURCE ACCESS : Labarge Road  
ACCESS DISTANCE (m) : 800 CONDITION : Excellent  
AREA (ha) : 25 SITE SCALE: DIGITIZ NO:

LAND TENURE : Zoned QR STATUS : Depleted  
PAST USE - SOURCE : Basecourse, Asphalt Agg. STOCKPILE - TYPE : None  
PERFORMANCE RATING : Excellent - QUANTITY : N/A

----- PART B: SOURCE INVESTIGATION AND DESCRIPTIVE INFORMATION -----

INVESTIGATION LEVEL : Production Record Review LAST INVEST. DATE : 1987  
GEOPHYSICAL DATA : None TEST HOLE DENSITY (#/ha) : 0  
BOREHOLES - NUMBER : 0 TESTPITS - NO. : 0 EXPOSURES - NO. : 0  
- DEPTH (m): N/A - DEPTH (m): N/A - DEPTH (m) : N/A  
DATA QUALITY : N/A

SOURCE TOPOGRAPHY : Gently Rolling SLOPE : Gentle  
AREA DRAINAGE : Poor  
SOURCE VEGETATION : Burn Area - Immature Pine  
PERMAFROST FEATURES : None  
ACTIVE LAYER (m) : N/A  
GENERIC ORIGIN : Glaciofluvial  
GRANULAR - TYPE : SW-GW  
- THICKNESS (m) : Less than 0.5m

DESCRIPT. DATE : 03/01/91  
LANDFORMS : Outwash  
OVERBURDEN - TYPE : Stripped  
- THICKNESS (m): 0  
UNDERBURDEN : Till/Bedrock

DEVELOP. CONSTRAINT : Nearly Depleted, Potential Landclaims  
DEVELOP. POTENTIAL : Poor

----- PART C: TEST RESULTS AND MATERIAL QUANTITY -----

USC - NUMBER : 0 MOISTURE CONTENT - NUMBER : 0  
- CLASS : N/A - RESULTS: N/A  
SIZE ANALYSIS - NO. : 90 GRAVEL (%) : 17:41:66 SAND (%) : 31:53:79 FINES (%) : 2:6:11  
- OVERSIZE (%) : <10% D-50 (um) : 4000

PETROGRAPHIC ANALYSIS-ND. OF TESTS: 0 RESULTS: N/A

OTHER TESTS (see DATA DICTIONARY): 0

MATERIAL QUANTITY (All in cubic metres) CLASS 1 : 0  
CLASS 2 : <1000  
TOTAL RECOVERABLE : <1000 CLASS 3 : Unknown  
ANNUAL RECOVERABLE : N/A CLASS 4 : Unknown  
CLASS 5 : Unknown  
TOTAL VOLUME : Depleted

RECORD UPDATED BY : EBA Engineering Consultants Ltd.  
LAST UPDATE : 03/15/91

EBA PROJECT NUMBER : 0201-10539

GRANULAR RESOURCE INVENTORY  
WHITEHORSE AREA, YUKON  
SOURCE CATALOGUE DATA SHEET

===== PART A: LOCATION AND STATUS =====

SOURCE NUMBER : WHSE-06                      STUDY NO. : WHRP-002  
NTS MAP REFERENCE : 105D/11                      DIGITIZ NO. :                      MAP SCALE : 1:50000  
UTM ZONE-EASTING : 8-492900                      LOCATION : 850 m NW of Kopper King  
UTM NORTHING : 6733950  
LOCAL NAMES(S) : Unknown  
CORRIDOR NO./NAME : ATaska Highway  
KILOMETRE POST : 1478.2                      OFFSET(m) : 300 m West

SOURCE ACCESS : Old Fish Lake Road  
ACCESS DISTANCE (m) : 400                      CONDITION : Good  
AREA (ha) : 16                      SITE SCALE: None                      DIGITIZ NO:

LAND TENURE : Zoned OS                      STATUS : Dormant  
PAST USE - SOURCE : Borrow Pit - Gravel                      STOCKPILE - TYPE : None  
PERFORMANCE RATING : Fair to Good                      - QUANTITY : N/A

===== PART B: SOURCE INVESTIGATION AND DESCRIPTIVE INFORMATION =====

INVESTIGATION LEVEL : Reconnaissance/Air Photos                      LAST INVEST. DATE : 1991  
GEOPHYSICAL DATA : None                      TEST HOLE DENSITY (#/ha) : 0  
BOREHOLES - NUMBER : 0                      TESTPITS - NO. : 0                      EXPOSURES - NO. : 1  
- DEPTH (m): N/A                      - DEPTH (m): N/A                      - DEPTH (m) : 6 m

DATA QUALITY : Poor  
SOURCE TOPOGRAPHY : Gently Rolling                      SLOPE : Gentle to the North  
AREA DRAINAGE : Well Drained  
SOURCE VEGETATION : Mature Pine, Spruce  
PERMAFROST FEATURES : None  
ACTIVE LAYER (m) : N/A                      DESCRIPT. DATE : 03/01/91  
GENERIC ORIGIN : Alluvial                      LANDFORMS : Terrace  
GRANULAR - TYPE : Gravel (GP/GM)                      OVERBURDEN - TYPE : Silt  
- THICKNESS (m) : 4 m                      Silty Gravel  
- THICKNESS (m): up to 0.5 m  
UNDERBURDEN : Unknown

DEVELOP. CONSTRAINT : Close to Existing Ski Trails, Limited Buffer  
DEVELOP. POTENTIAL : Poor

===== PART C: TEST RESULTS AND MATERIAL QUANTITY =====

USC - NUMBER : 0                      MOISTURE CONTENT - NUMBER : 0  
- CLASS : N/A                      SAND (%) : N/A                      - RESULTS: N/A  
SIZE ANALYSIS - NO. : 0                      GRAVEL (%) : N/A                      FINES (%) : N/A  
- OVERSIZE (%) : N/A                      D-50 (um) : N/A  
PETROGRAPHIC ANALYSIS-NO. OF TESTS: 0                      RESULTS: N/A

OTHER TESTS (see DATA DICTIONARY): 0

MATERIAL QUANTITY (All in cubic metres)

TOTAL RECOVERABLE : 500 000 (est.)                      CLASS 1 : Unknown  
ANNUAL RECOVERABLE : N/A                      CLASS 2 : 250 000  
CLASS 3 : 250 000  
CLASS 4 : Unknown  
CLASS 5 : Unknown  
TOTAL VOLUME : 500 000

RECORD UPDATED BY : EBA Engineering Consultants Ltd.  
LAST UPDATE : 03/15/91  
EBA PROJECT NUMBER : 0201-10539

GRANULAR RESOURCE INVENTORY  
WHITEHORSE AREA, YUKON  
SOURCE CATALOGUE DATA SHEET

===== PART A: LOCATION AND STATUS =====

SOURCE NUMBER : WHSE-07            STUDY NO. : WHRP-001, WHRP-002  
 NTS MAP REFERENCE : 105D/11        DIGITIZ NO. :            MAP SCALE : 1:50000  
 UTM ZONE-EASTING : 8-494000        LOCATION : Opposite Kopper King  
 UTM        NORTHING : 6734750  
 LOCAL NAMES(S) : McIntyre Pumphouse Area  
 CORRIDOR NO./NAME : Alaska Highway  
 KILOMETRE POST : 1477.5            OFFSET(m) : 700 m Right

SOURCE ACCESS : Pine St. Extension (Porter Creek)  
 ACCESS DISTANCE (m) : 2000            CONDITION : Good  
 AREA (ha) : 12                        SITE SCALE: None            DIGITIZ NO:

LAND TENURE : Zoned CH, OS            STATUS : Undeveloped  
 PAST USE - SOURCE : General Backfill    STOCKPILE - TYPE : None  
 PERFORMANCE RATING : Fair            - QUANTITY : N/A

===== PART B: SOURCE INVESTIGATION AND DESCRIPTIVE INFORMATION =====

INVESTIGATION LEVEL : Reconnaissance/Air Photo    LAST INVEST. DATE : 1991  
 GEOPHYSICAL DATA : None                        TEST HOLE DENSITY (#/ha) : 0  
 BOREHOLES - NUMBER : 0                        TESTPITS - NO. : 0            EXPOSURES - NO. : 2  
                       - DEPTH (m): N/A                        - DEPTH (m): N/A            - DEPTH (m) : 2:4:6

DATA QUALITY : Poor  
 SOURCE TOPOGRAPHY : Hummocky                        SLOPE : Towards McIntyre Creek  
 AREA DRAINAGE : Good to Fair

SOURCE VEGETATION : Mature Pine, White Spruce

PERMAFROST FEATURES : None

ACTIVE LAYER (m) : N/A

DESCRIPT. DATE : 03/D1/91

GENERIC ORIGIN : Glaciofluvial

LANDFORMS : Outwash

GRANULAR - TYPE : GM/GP

OVERBURDEN - TYPE : Silt/Silt and Sand

- THICKNESS (m) : 1.5:3.0:5.0

- THICKNESS (m): 0.9:1.2:1.5

UNOERBURDEN : Unknown

DEVELOP. CONSTRAINT : Near Commercial Area-Small Deposits-Land Claims

DEVELOP. POTENTIAL : Fair to Poor

===== PART C: TEST RESULTS AND MATERIAL QUANTITY =====

USC - NUMBER : 0                                        MOISTURE CONTENT - NUMBER : 0  
                       - CLASS : N/A                                        - RESULTS: N/A  
 SIZE ANALYSIS - NO. : 0                        GRAVEL (%) : N/A            SAND (%) : N/A            FINES (%) : N/A  
                       - OVERSIZE (%) : N/A                        D-50 (um) : N/A

PETROGRAPHIC ANALYSIS-NO. OF TESTS: 0    RESULTS: N/A

OTHER TESTS (see DATA DICTIONARY): 0

MATERIAL QUANTITY (A1) in cubic metres)

CLASS 1 : Unknown  
 CLASS 2 : Unknown  
 CLASS 3 : Unknown  
 CLASS 4 : Unknown  
 CLASS 5 : Unknown  
 TOTAL VOLUME : 60000est

TOTAL RECOVERABLE : 600 000 (est.)

ANNUAL RECOVERABLE : N/A

RECORD UPDATED BY : EBA Engineering Consultants Ltd.

LAST UPDATE : 03/15/91

EBA PROJECT NUMBER : 0201-10539







GRANULAR RESOURCE INVENTORY  
WHITEHORSE AREA, YUKON  
SOURCE CATALOGUE DATA SHEET

-----  
PART A: LOCATION AND STATUS  
-----

SOURCE NUMBER : WHSE-11 STUDY NO. : WHRP-001, WHRP-002, WHRP-005, WHRP-006  
NTS MAP REFERENCE : 105D/11 DIGITIZ NO. : MAP SCALE : 1:50000  
UTH ZONE-EASTING : 8-497300 LOCATION : South Access & Alaska Hwy  
UTH NORTHING : 6727500  
LOCAL NAMES(S) : Ear Lake Operators  
CORRIDOR NO./NAME : South Access/Alaska Highway  
KILOMETRE POST : 1470 OFFSET(m) : East Side

SOURCE ACCESS : Off Alaska Highway and South Access  
ACCESS DISTANCE (m) : 1500 CDNDITION : Good  
AREA (ha) : 35 SITE SCALE: N/A DIGITIZ NO:

LAND TENURE : Zoned QR STATUS : Active - 3 Operators  
PAST USE - SOURCE : Borrow; Asphalt; Concrete STOCKPILE - TYPE : Asphalt; Basecourse; Concrete  
PERFORMANCE RATING : Excellent - QUANTITY : Variable Sizes

-----  
PART B: SOURCE INVESTIGATION AND DESCRIPTIVE INFORMATION  
-----

INVESTIGATION LEVEL : Delineation LAST INVEST. DATE : 1979  
GEOPHYSICAL DATA : EM31; EM34 TEST HOLE DENSITY (#/ha) : 1.4  
BOREHOLES - NUMBER : 23 TESTPITS - NO. : 18 EXPOSURES - NO. : 11  
- DEPTH (m): 0.7:5.6:24.5 - DEPTH (m): 2.5:4.0:4.3 - DEPTH (m) : 2:5:10

DATA QUALITY : Excellent

SOURCE TOPOGRAPHY : Pit Topography SLOPE : Moderate to East

AREA DRAINAGE : Well Drained

SOURCE VEGETATION : Stripped With Some Mature Pine

PERMAFROST FEATURES : None

ACTIVE LAYER (m) : N/A

GENERIC ORIGIN : Glaciofluvial

GRANULAR - TYPE : GW; SW; SP

- THICKNESS (m) : 4:12:20

DESCRIPT. DATE : 03/01/91

LANDFORMS : Terrace

OVERBURDEN - TYPE : Silt

- THICKNESS (m): 1.0:1.5:5.0

UNOERBURDEN : Bedrock

DEVELOP. CONSTRAINT : None

DEVELOP. POTENTIAL : Excellent

-----  
PART C: TEST RESULTS AND MATERIAL QUANTITY  
-----

USC - NUMBER : 252 MOISTURE CONTENT - NUMBER : 0  
- CLASS : SW; GW; GP; SP - RESULTS: N/A

SIZE ANALYSIS - NO. : 252 GRAVEL (%) : 28:39:70 SAND (%) : 4:56:62 FINES (%) : 1:5:13  
- OVERSIZE (%) : <10% D-50 (um) : 2000; 3000; 16000

PETROGRAPHIC ANALYSIS-NO. OF TESTS: 7 RESULTS: 101 to 114

OTHER TESTS (see DATA DICTIONARY): Sulph.Soundness; 6 Tests-Results 2.0:3.7:5.0

MATERIAL QUANTITY (All in cubic metres)

	CLASS 1 :	400 000
	CLASS 2 :	1 000 000
TOTAL RECOVERABLE	CLASS 3 :	1 000 000
ANNUAL RECOVERABLE	CLASS 4 :	0
	CLASS 5 :	0
	TOTAL VOLUME :	2 400 000

RECORD UPDATED BY : EBA Engineering Consultants Ltd.

LAST UPDATE : 03/15/91

EBA PROJECT NUMBER : 0201-10539



GRANULAR RESOURCE INVENTORY  
WHITEHORSE AREA, YUKON  
SOURCE CATALOGUE DATA SHEET

-----  
PART A: LOCATION AND STATUS  
-----

SOURCE NUMBER : WHSE-13                      STUDY NO. : WHRP-007, WHRP-008, WHRP-009, WHRP-010, WHRP-011  
NTS MAP REFERENCE : 105D/11                      DIGITIZ NO. :                      MAP SCALE : 1:50000  
UTM ZONE-EASTING : 8-494650                      LOCATION : S.W. of Lobird Trailer Ct  
UTM                      NORTHING : 6725350  
LOCAL NAMES(S) : McLean Lake Quarry Area  
CORRIDOR NO./NAME : Alaska Highway  
KILOMETRE POST : 1469.5                      OFFSET(m) : 3000 m Left

SOURCE ACCESS : Off Access to Lobird Trailer Court  
ACCESS DISTANCE (m) : 3500                      CONDITION : Good  
AREA (ha) : 75                      SITE SCALE: N/A                      DIGITIZ NO:

LAND TENURE : Zoned QR                      STATUS : Active  
PAST USE - SOURCE : Borrow, Crushed Gravel                      STOCKPILE - TYPE : 20 mm Crush, 50 mm Crush  
PERFORMANCE RATING : Poor to Good                      - QUANTITY : Unknown

-----  
PART B: SOURCE INVESTIGATION AND DESCRIPTIVE INFORMATION  
-----

INVESTIGATION LEVEL : Delineation                      LAST INVEST. DATE : 1988  
GEOPHYSICAL DATA : None                      TEST HOLE DENSITY (#/ha) : 1.4  
BOREHOLES - NUMBER : 31                      TESTPITS - NO. : 73                      EXPOSURES - NO. : 0  
- DEPTH (m): 6.5:5.1:0.3                      - DEPTH (m): 5.0:3.0:1.0                      - DEPTH (m) : N/A

DATA QUALITY : Excellent

SOURCE TOPOGRAPHY : Hummocky                      SLOPE : Gentle to Moderate

AREA DRAINAGE : Fair to Good

SOURCE VEGETATION : Mature White Spruce, Pine, Aspen

PERMAFROST FEATURES : None

ACTIVE LAYER (m) : N/A

GENERIC DRIGIN : Glaciofluvial

GRANULAR - TYPE : GM; GP; SH

- THICKNESS (m) : 0.3:3.8:6.5

DESCRIPT. DATE : 03/01/91

LANDFORMS : Outwash

OVERBURDEN - TYPE : Sand

Silty Sand

- THICKNESS (m): 0.0-0.3-0.3

UNDERBURDEN : Bedrock

DEVELOP. CONSTRAINT : Best Leases Are Occupied

DEVELOP. POTENTIAL : Good

-----  
PART C: TEST RESULTS AND MATERIAL QUANTITY  
-----

USC - NUMBER : 98                      MOISTURE CONTENT - NUMBER : 0  
- CLASS : GM:GP:SH                      SAND (%) : 19:38:60 - RESULTS: N/A  
SIZE ANALYSIS - NO. : 98                      GRAVEL (%) : 28:55:77                      FINES (%) : 3:8:19  
- OVERSIZE (%) : to 30%                      D-50 (um) : 3000:12500:22000  
PETROGRAPHIC ANALYSIS-NO. OF TESTS: 0                      RESULTS: N/A

OTHER TESTS (see DATA DICTIONARY): 0

MATERIAL QUANTITY (All in cubic metres)

TOTAL RECOVERABLE : 2 900 000                      CLASS 1 : 500 000  
ANNUAL RECOVERABLE : N/A                      CLASS 2 : 2 000 000  
CLASS 3 : 400 000  
CLASS 4 : 0  
CLASS 5 : 0  
TOTAL VOLUME : 2 900 000

RECORD UPDATED BY : EBA Engineering Consultants Ltd.

LAST UPDATE : 03/07/91

EBA PROJECT NUMBER : 0201-10539



GRANULAR RESOURCE INVENTORY  
 WHITEHORSE AREA, YUKON  
 SOURCE CATALOGUE DATA SHEET

----- PART A: LOCATION AND STATUS -----

SOURCE NUMBER : WHSE-15            STUDY NO. : WHRP-001  
 NTS MAP REFERENCE : 1050/10            DIGITIZ NO. :            MAP SCALE : 1:50000  
 UTM ZONE-EASTING : 8-500750            LOCATION : SE of MacRae Subdivision  
 UTM            NORTHING : 6721450  
 LOCAL NAMES(S) : MacRae Industrial Area  
 CORRIDOR NO./NAME : Alaska Highway  
 KILOMETRE POST : 1462            OFFSET(m) : 100 m Right

SOURCE ACCESS : Access Road to RC Lots Located East of Source  
 ACCESS DISTANCE (m) : 300            CONDITION : Good  
 AREA (ha) : 15            SITE SCALE:            DIGITIZ NO:

LAND TENURE : Zoned OS            STATUS : Pit is Dormant  
 PAST USE - SOURCE : Borrow            STOCKPILE - TYPE : None  
 PERFORMANCE RATING : Good            - QUANTITY : N/A

----- PART B: SOURCE INVESTIGATION AND DESCRIPTIVE INFORMATION -----

INVESTIGATION LEVEL : Delineation/Airphoto            LAST INVEST. DATE : 1969  
 GEOPHYSICAL DATA : None            TEST HOLE DENSITY (#/ha) : 0.1  
 BOREHOLES - NUMBER : 0            TESTPITS - NO. : 1            EXPOSURES - NO. : 1  
     - DEPTH (m): N/A            - DEPTH (m): 0.0:0.0:7.0            - DEPTH (m) : 0.0:0.0:5.0  
 DATA QUALITY : Fair

SOURCE TOPOGRAPHY : Hummocky            SLOPE : Gentle to East  
 AREA DRAINAGE : Well Drained  
 SOURCE VEGETATION : Mature Pine, Spruce Aspen  
 PERMAFROST FEATURES : None  
 ACTIVE LAYER (m) : N/A            DESCRIPT. DATE : 03/01/91  
 GENERIC ORIGIN : Glaciofluvial            LANDFORMS : Outwash  
 GRANULAR - TYPE : GW: GP            OVERBURDEN - TYPE : Silt  
     - THICKNESS (m) : 4:5:7            - THICKNESS (m): <1 m  
    UNDERBURDEN : Unknown

DEVELOP. CONSTRAINT : Close to MH & RC Lots: Land Claims  
 DEVELOP. POTENTIAL : Poor

----- PART C: TEST RESULTS AND MATERIAL QUANTITY -----

USC - NUMBER : 1            MOISTURE CONTENT - NUMBER : 0  
     - CLASS : GP            - RESULTS: N/A  
 SIZE ANALYSIS - NO. : 1            GRAVEL (%) : 64            SAND (%) : 33            FINES (%) : 3  
     - OVERSIZE (%) : 15%            D-50 (um) : 10000

PETROGRAPHIC ANALYSIS-NO. OF TESTS: 0            RESULTS: N/A

OTHER TESTS (see DATA DICTIONARY): 0

MATERIAL QUANTITY (All in cubic metres)

	CLASS 1 :	300 000
	CLASS 2 :	400 000
TOTAL RECOVERABLE :	CLASS 3 :	100 000
ANNUAL RECOVERABLE :	CLASS 4 :	0
	CLASS 5 :	0
	TOTAL VOLUME :	800 000

RECORD UPDATED BY : EBA Engineering Consultants Ltd.  
 LAST UPDATE : 03/15/91

EBA PROJECT NUMBER : 0201-10539

GRANULAR RESOURCE INVENTORY  
WHITEHORSE AREA, YUKON  
SOURCE CATALOGUE DATA SHEET

----- PART A: LOCATION AND STATUS -----

SOURCE NUMBER : WHSE-16                      STUDY NO. : WHRP-001  
 NTS MAP REFERENCE : 1050/10                  DIGITIZ NO. :                      MAP SCALE : 1:50 000  
 UTM ZONE-EASTING : 8-501500                      LOCATION : North End of Subdivision  
 UTM NORTHING : 6720350  
 LOCAL NAMES(S) : Wolf Creek Subdivision  
 CORRIDOR NO./NAME : Alaska Highway  
 KILOMETRE POST : 1461                      OFFSET(m) : 200 m Left

SOURCE ACCESS : Left Side  
 ACCESS DISTANCE (m) : 100                      CONDITION : Blocked  
 AREA (ha) : 20                                  SITE SCALE: n/a                      DIGITIZ NO:

LAND TENURE : Zoned as O.S. and R.C.                      STATUS : Dormant pit  
 PAST USE - SOURCE : Borrow/crushing                      STOCKPILE - TYPE : None  
 PERFORMANCE RATING : Good                                  - QUANTITY : n/a

----- PART B: SOURCE INVESTIGATION AND DESCRIPTIVE INFORMATION -----

INVESTIGATION LEVEL : Delineation/Air Photo                      LAST INVEST. DATE : 1969  
 GEOPHYSICAL DATA : None                                  TEST HDLE DENSITY (#/ha) : 0.4  
 BOREHOLES - NUMBER : 0                      TESTPITS - NO. : 11                      EXPOSURES - NO. : 1  
     - DEPTH (m): n/a                                  - DEPTH (m): 4.3:3.6:3.0                      - DEPTH (m) : 6.0 m  
 DATA QUALITY : Good

SOURCE TOPOGRAPHY : Flat/gently rolling                      SLOPE : Gentle to the East  
 AREA DRAINAGE : Well drained

SOURCE VEGETATION : Mature pine, spruce & aspen

PERMAFROST FEATURES : None

ACTIVE LAYER (m) : n/a

DESCRIPT. DATE : 03/01/91

GENERIC ORIGIN : Alluvial

LANDFORMS : Fan

GRANULAR - TYPE : GW/GP

OVERBURDEN - TYPE : Silt; sand

- THICKNESS (m) : 4.0:2.8:0.7

- THICKNESS (m): 3.0:0.7:0.0

UNDERBURDEN : Unknown

DEVELOP. CONSTRAINT : Close to Wolf Creek and Pineride Subdivisions

DEVELOP. POTENTIAL : Poor

----- PART C: TEST RESULTS AND MATERIAL QUANTITY -----

USC - NUMBER : 9                                  MOISTURE CONTENT - NUMBER : 0  
     - CLASS : GW;GP;SP                                  - RESULTS: n/a  
 SIZE ANALYSIS - NO. : 9                      GRAVEL (%) : 74:61:48                      SAND (%) : 50:37:24                      FINES (%) : 3:2:1  
     - OVERSIZE (%) : 45%                      D-50 (um) : 12500

PETROGRAPHIC ANALYSIS-NO. OF TESTS: 1                      RESULTS: Satisfac.

OTHER TESTS (see DATA DICTIONARY): LA Abrasion - 1 Test 15.7% Loss

MATERIAL QUANTITY (All in cubic metres)

TOTAL RECOVERABLE : 600 000	CLASS 1 :	100 000
ANNUAL RECOVERABLE : n/a	CLASS 2 :	400 000
	CLASS 3 :	100 000
	CLASS 4 :	0
	CLASS 5 :	0
	TOTAL VOLUME :	600 000

RECORD UPDATED BY : EBA Engineering Consultants Ltd.

LAST UPDATE : 03/18/91

EBA PROJECT NUMBER : 0201-10539

GRANULAR RESOURCE INVENTORY  
 WHITEHORSE AREA, YUKON  
 SOURCE CATALOGUE DATA SHEET

----- PART A: LOCATION AND STATUS -----

SOURCE NUMBER : WHSE-17 STUDY NO. : WHP-001  
 NTS MAP REFERENCE : 105D/10 DIGITIZ NO. : MAP SCALE : 1:50 000  
 UTM ZONE-EASTING : 8-502950 LOCATION : 1.1 km N of Campground  
 UTM NORTHING : 6719350  
 LOCAL NAME(S) : Wolf Creek  
 CORRIDOR NO./NAME : Alaska Highway  
 KILOMETRE POST : 1459.7 OFFSET(m) : 100 m Right

SOURCE ACCESS : Haul Road  
 ACCESS DISTANCE (m) : 100 CONDITION : Good  
 AREA (ha) : 45 SITE SCALE: n/a DIGITIZ NO:

LAND TENURE : Zoned RC STATUS : Developed  
 PAST USE - SOURCE : Borrow/Crushing STOCKPILE - TYPE : None  
 PERFORMANCE RATING : Good - QUANTITY : n/a

----- PART B: SOURCE INVESTIGATION AND DESCRIPTIVE INFORMATION -----

INVESTIGATION LEVEL : Delineation/Air Photo LAST INVEST. DATE : 1969  
 GEOPHYSICAL DATA : None TEST HOLE DENSITY (#/ha) :  
 BOREHOLES - NUMBER : 0 TESTPITS - NO. : 7 EXPOSURES - NO. : 1  
 - DEPTH (m): n/a - DEPTH (m): 4.2:4.1:3.4 - DEPTH (m) : 5.0

DATA QUALITY : Good  
 SOURCE TOPOGRAPHY : Gently Rolling SLOPE : Gentle to the SE  
 AREA DRAINAGE : Well drained

SOURCE VEGETATION : Mature white spruce, aspen and pine  
 PERMAFROST FEATURES : None

ACTIVE LAYER (m) : n/a DESCRIPT. DATE : 03/01/91  
 GENERIC ORIGIN : Alluvial LANDFORMS : Terrace  
 GRANULAR - TYPE : GP;SP;GW;GM OVERBURDEN - TYPE : Silty sand  
 - THICKNESS (m) : 4.0:3.3:2.5 - THICKNESS (m): 0.7:0.4:0.0  
 UNDERBURDEN : Unknown

DEVELOP. CONSTRAINT : Pineridge Subdivision; Wolf Creek Campground  
 DEVELOP. POTENTIAL : Poor

----- PART C: TEST RESULTS AND MATERIAL QUANTITY -----

USC - NUMBER : 7 MOISTURE CONTENT - NUMBER : 0  
 - CLASS : GW;GM - RESULTS: n/a  
 SIZE ANALYSIS - NO. : 7 GRAVEL (%) : 69:54:35 SAND (%) : 62:36:23 FINES (%) : 36:11:2  
 - OVERSIZE (%) : <10 % D-50 (um) : 15000:72000:600

PETROGRAPHIC ANALYSIS-NO. OF TESTS: 0 RESULTS: n/a

OTHER TESTS (see DATA DICTIONARY): LA Abrasion - 1 Test 16.8% Loss

MATERIAL QUANTITY (All in cubic metres) CLASS 1 : 500 000  
 CLASS 2 : 500 000  
 TOTAL RECOVERABLE : 1 500 000 CLASS 3 : 500 000  
 ANNUAL RECOVERABLE : N/A CLASS 4 : 0  
 CLASS 5 : 0  
 TOTAL VOLUME : 1 500 000

RECORD UPDATED BY : EBA Engineering Consultants Ltd.  
 LAST UPDATE : 03/18/91

EBA PROJECT NUMBER : 0201-10539



GRANULAR RESOURCE INVENTORY  
WHITEHORSE AREA, YUKON  
SOURCE CATALOGUE DATA SHEET

-----  
PART A: LOCATION AND STATUS  
-----

SOURCE NUMBER : WHSE-19 STUDY NO. :  
NTS MAP REFERENCE : 105D/10 DIGITIZ NO. : MAP SCALE : 1:50 000  
UTM ZONE-EASTING : 8-504100 LOCATION : Between Wolf & Cowley Crk  
UTM NORTHING : 6719150  
LOCAL NAMES(S) : E of Wolf Ck. Campground  
CORRIDOR NO./NAME : Alaska Highway  
KILOMETRE POST : 1457.6 OFFSET(m) : 350 m Right

SOURCE ACCESS : To campsite only  
ACCESS DISTANCE (m) : 150 CONDITION : Good  
AREA (ha) : 25 SITE SCALE: n/a DIGITIZ NO:

LAND TENURE : Zones PR and OS STATUS : Undeveloped  
PAST USE - SOURCE : Undeveloped STOCKPILE - TYPE : None  
PERFORMANCE RATING : Unknown - QUANTITY : n/a

-----  
PART B: SOURCE INVESTIGATION AND DESCRIPTIVE INFORMATION  
-----

INVESTIGATION LEVEL : Airphoto Interpretation LAST INVEST. DATE : 1991  
GEOPHYSICAL DATA : None TEST HOLE DENSITY (#/ha) : 0  
BOREHOLES - NUMBER : 0 TESTPITS - NO. : 0 EXPOSURES - NO. : 0  
- DEPTH (m): n/a - DEPTH (m): n/a - DEPTH (m) : n/a  
DATA QUALITY : Poor  
SOURCE TOPOGRAPHY : Gently Rolling SLOPE : Towards the East  
AREA DRAINAGE : Well Drained  
SOURCE VEGETATION : Mature pine and white spruce  
PERMAFROST FEATURES : None  
ACTIVE LAYER (m) : n/a DESCRIPT. DATE : 03/01/91  
GENERIC ORIGIN : Alluvial LANDFORMS : Fan  
GRANULAR - TYPE : Sand and gravel OVERBURDEN - TYPE : Silt, sandy silt  
- THICKNESS (m) : Unknown - THICKNESS (m): Unknown  
UNDERBURDEN : Unknown  
DEVELOP. CONSTRAINT : Campground location; material may be too fine  
DEVELOP. POTENTIAL : Fair

-----  
PART C: TEST RESULTS AND MATERIAL QUANTITY  
-----

USC - NUMBER : 0 MOISTURE CONTENT - NUMBER : 0  
- CLASS : n/a - RESULTS: n/a  
SIZE ANALYSIS - NO. : 0 GRAVEL (%) : n/a SAND (%) : n/a FINES (%) : n/a  
- OVERSIZE (%) : n/a D-50 (um) : n/a

PETROGRAPHIC ANALYSIS-NO. OF TESTS: 0 RESULTS: n/a

OTHER TESTS (see DATA DICTIONARY): 0

MATERIAL QUANTITY (All in cubic metres) CLASS 1 : Unknown  
CLASS 2 : Unknown  
TOTAL RECOVERABLE : Unknown CLASS 3 : Unknown  
ANNUAL RECOVERABLE : Unknown CLASS 4 : Unknown  
CLASS 5 : Unknown  
TOTAL VOLUME : Unknown

RECORD UPDATED BY : EBA Engineering Consultants Ltd.  
LAST UPDATE : 03/18/91

EBA PROJECT NUMBER : 0201-10539



GRANULAR RESOURCE INVENTORY  
WHITEHORSE AREA, YUKON  
SOURCE CATALOGUE DATA SHEET

----- PART A: LOCATION AND STATUS -----

SOURCE NUMBER : WHSE-21 STUDY NO. : WHRP-001  
NTS MAP REFERENCE : 105D/14 DIGITIZ NO. : MAP SCALE : 1:50 000  
UTM ZONE-EASTING : 8-499750 LOCATION : 10 km from Campbell Brdg.  
UTM NORTHING : 6736650  
LOCAL NAMES(S) : Croucher Creek Area  
CORRIDOR NO./NAME : Long Lake Road  
KILOMETRE POST : 9 OFFSET(m) : East of road

SOURCE ACCESS : Long Lake road  
ACCESS DISTANCE (m) : 2 CONDITION : Unknown  
AREA (ha) : Unknown SITE SCALE: n/a DIGITIZ NO:

LAND TENURE : Zoned Open Space STATUS : Dormant  
PAST USE - SOURCE : None STOCKPILE - TYPE : Borrow  
PERFORMANCE RATING : Good - QUANTITY : n/a

----- PART B: SOURCE INVESTIGATION AND DESCRIPTIVE INFORMATION -----

INVESTIGATION LEVEL : Hinker Report Review LAST INVEST. DATE : 1977  
GEOPHYSICAL DATA : None TEST HOLE DENSITY (#/ha) : 0  
BOREHOLES - NUMBER : 0 TESTPITS - NO. : 0 EXPOSURES - NO. : 0  
- DEPTH (m): n/a - DEPTH (m): n/a - DEPTH (m) : n/a  
DATA QUALITY : Poor

SOURCE TOPOGRAPHY : Hummocky SLOPE : Unknown

AREA DRAINAGE : Well drained

SOURCE VEGETATION : Mature pine

PERMAFROST FEATURES : Unknown

ACTIVE LAYER (m) : Unknown

DESCRIPT. DATE : 03/01/91

GENERIC ORIGIN : Glaciofluvial

LANDFORMS : Esker

GRANULAR - TYPE : Gravel and sand

OVERBURDEN - TYPE : Unknown

- THICKNESS (m) : Unknown

- THICKNESS (m): Unknown

UNDERBURDEN : Unknown

DEVELDP. CONSTRAINT : Distance to downtown Whitehorse, Landclaims

DEVELDP. POTENTIAL : Poor to fair

----- PART C: TEST RESULTS AND MATERIAL QUANTITY -----

USC - NUMBER : 0 MOISTURE CONTENT - NUMBER : 0  
- CLASS : n/a - RESULTS: n/a  
SIZE ANALYSIS - NO. : 0 GRAVEL (%) : n/a SAND (%) : n/a FINES (%): n/a  
- OVERSIZE (%) : n/a D-50 (um) : n/a

PETROGRAPHIC ANALYSIS-NO. OF TESTS: 0 RESULTS: n/a

OTHER TESTS (see DATA DICTIONARY): 0

MATERIAL QUANTITY (All in cubic metres)

CLASS 1 : Unknown

TOTAL RECOVERABLE : Unknown

CLASS 2 : Unknown

ANNUAL RECOVERABLE : Unknown

CLASS 3 : Unknown

CLASS 4 : Unknown

CLASS 5 : Unknown

TOTAL VOLUME : Unknown

RECORD UPDATED BY : EBA Engineering Consultants Ltd.

LAST UPDATE : 03/18/91

EBA PROJECT NUMBER : 0201-10539

GRANULAR RESOURCE INVENTORY  
WHITEHORSE AREA, YUKON  
SOURCE CATALOGUE DATA SHEET

-----  
PART A: LOCATION AND STATUS  
-----

SOURCE NUMBER : WHSE-22                      STUDY NO. :  
NTS MAP REFERENCE : 105D/11                  DIGITIZ NO. :                      MAP SCALE : 1:50 000  
UTM ZONE-EASTING : 8-495600                      LOCATION : 1 km E of Quarry Leases  
UTM                  NORTHING : 6725550  
LOCAL NAMES(S) : E of McLean Lake Quarry  
CORRIDOR NO./NAME : Alaska Highway  
KILOMETRE POST : 1469.5                      OFFSET(m) : 2500 m Left

SOURCE ACCESS : Along McLean Lake Road  
ACCESS DISTANCE (m) : 2500                      CONDITION : Good  
AREA (ha) : 20                                  SITE SCALE:                      DIGITIZ NO:

LAND TENURE : Zoned Open Space                      STATUS : Undeveloped  
PAST USE - SOURCE : Undeveloped                      STOCKPILE - TYPE : None  
PERFORMANCE RATING : n/a                                  - QUANTITY : n/a

-----  
PART B: SOURCE INVESTIGATION AND DESCRIPTIVE INFORMATION  
-----

INVESTIGATION LEVEL : Airphoto Interpretation                      LAST INVEST. DATE : 1991  
GEOPHYSICAL DATA : None                                  TEST HOLE DENSITY (#/ha) : 0  
BOREHOLES - NUMBER : 0                      TESTPITS - NO. : 0                      EXPOSURES - NO. : 0  
                                - DEPTH (m): n/a                      - DEPTH (m): n/a                      - DEPTH (m) : n/a

DATA QUALITY : Non-existent  
SOURCE TOPOGRAPHY : Humocky                      SLOPE : Steep along perimeter

AREA DRAINAGE : Well drained  
SOURCE VEGETATION : Mature pine  
PERMAFROST FEATURES : None  
ACTIVE LAYER (m) : n/a                                  DESCRIPT. DATE : 03/01/91  
GENERIC ORIGIN : Glaciofluvial                      LANDFORMS : Outwash  
GRANULAR - TYPE : Unknown                      OVERBURDEN - TYPE : Unknown  
                                - THICKNESS (m) : Unknown                      - THICKNESS (m): Unknown  
UNDERBURDEN : Unknown

DEVELOP. CONSTRAINT : None  
DEVELOP. POTENTIAL : Good

-----  
PART C: TEST RESULTS AND MATERIAL QUANTITY  
-----

USC - NUMBER : 0                                  MOISTURE CONTENT - NUMBER : 0  
                                - CLASS : n/a                                  - RESULTS: n/a  
SIZE ANALYSIS - NO. : 0                      GRAVEL (%) : n/a                      SAND (%) : n/a                      FINES (%) : n/a  
                                - OVERSIZE (%) : n/a                      0-50 (um) : n/a

PETROGRAPHIC ANALYSIS-NO. OF TESTS: 0                      RESULTS: n/a

OTHER TESTS (see DATA DICTIONARY): 0

MATERIAL QUANTITY (All) in cubic metres                      CLASS 1 : Unknown  
TOTAL RECOVERABLE : Unknown                      CLASS 2 : Unknown  
ANNUAL RECOVERABLE : n/a                      CLASS 3 : Unknown  
    CLASS 4 : Unknown  
    CLASS 5 : Unknown  
TOTAL VOLUME : Unknown

RECORD UPDATED BY : EBA Engineering Consultants Ltd.  
LAST UPDATE : 03/18/91

EBA PROJECT NUMBER : 0201-10539



# EBA Engineering Consultants Ltd.

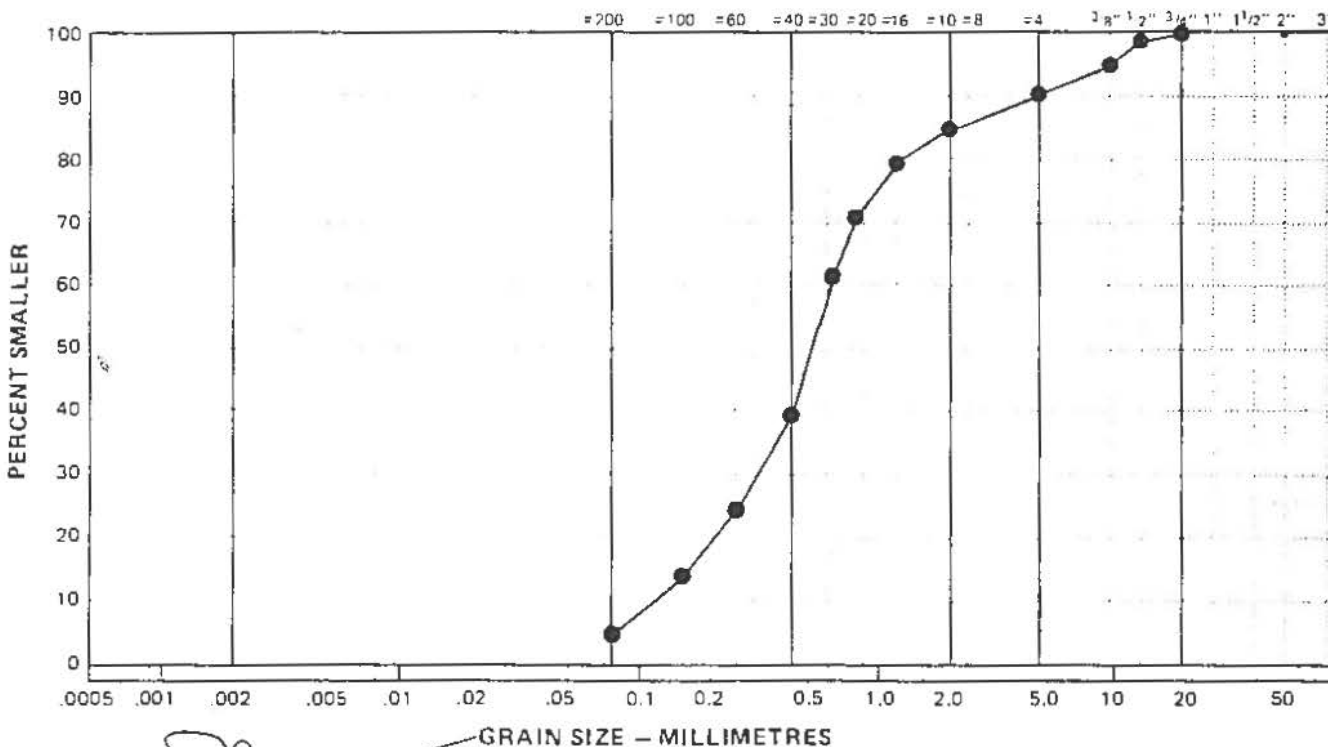
## PARTICLE - SIZE ANALYSIS OF SOILS

Project: Whitehorse Granular Inventory  
 Source: Lease H - McLean Lake Quarry Area  
 Project Number: 0201-10539  
 Date Tested: \_\_\_\_\_  
 Borehole Number: \_\_\_\_\_  
 Depth: \_\_\_\_\_  
 Soil Description: Proposed bedding sand - 1989  
 Cu: \_\_\_\_\_  
 Cc: \_\_\_\_\_  
 Natural Moisture Content: \_\_\_\_\_ %  
 Remarks: Bank run material (natural blend) average of  
5 sieves

SIEVE	PERCENTAGE PASSING
3"	
1 1/2"	
1"	
3/4"	100
1/2"	98
3/8"	96
No. 4	91
No. 10	85
No. 20	62
No. 40	39
No. 60	24
No. 100	14
No. 200	5

CLAY	SILT	SAND			GRAVEL	
		FINE	MEDIUM	COARSE	FINE	COARSE

SIEVE SIZES

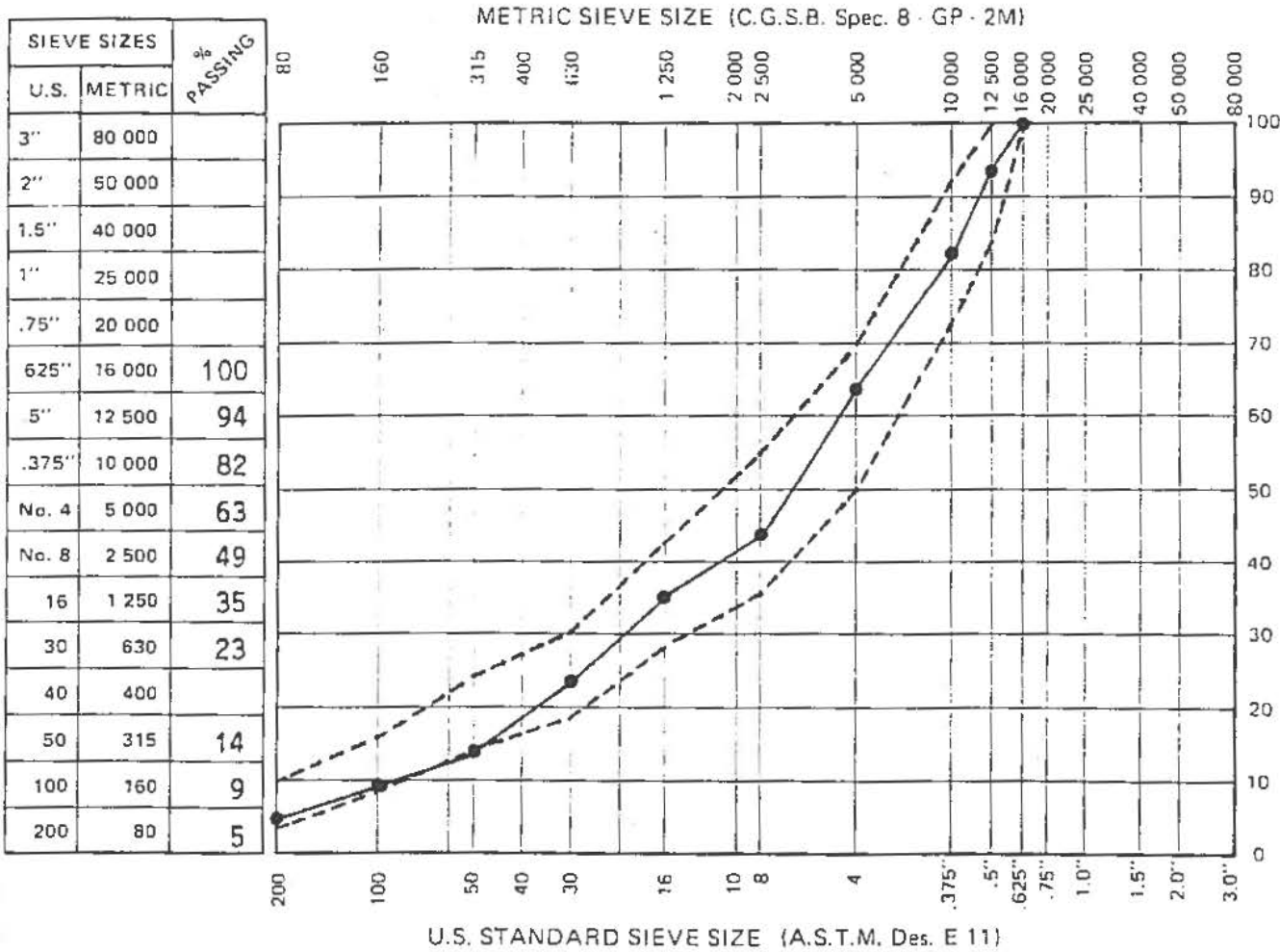


*M. Plant*

# EBA Engineering Consultants Ltd.

## AGGREGATE ANALYSIS REPORT

Project: Whitehorse Granular Inventory Sample Number: \_\_\_\_\_  
 Address: Source: Annie Lake Trucking - Ear Lake Sample Description: 16 mm Asphalt Aggregate  
 Project Number: 0201-10539 Natural Moisture Content: \_\_\_\_\_ %  
 Date Tested: \_\_\_\_\_ Organic Content: \_\_\_\_\_ % State of Alaska Method: \_\_\_\_\_  
 Client: Government of Yukon Colour Plate No.: \_\_\_\_\_ Other: \_\_\_\_\_  
 Attention: Ms Ann MacDonald Bulk Relative Density: \_\_\_\_\_  
 Bulk Relative Density (SSD): \_\_\_\_\_  
 Apparent Relative Density: \_\_\_\_\_  
 Absorption: \_\_\_\_\_ %



Remarks: Average of 52 sieves completed during crushing and asphalt testing

Reviewed By: *Mr. Plant*

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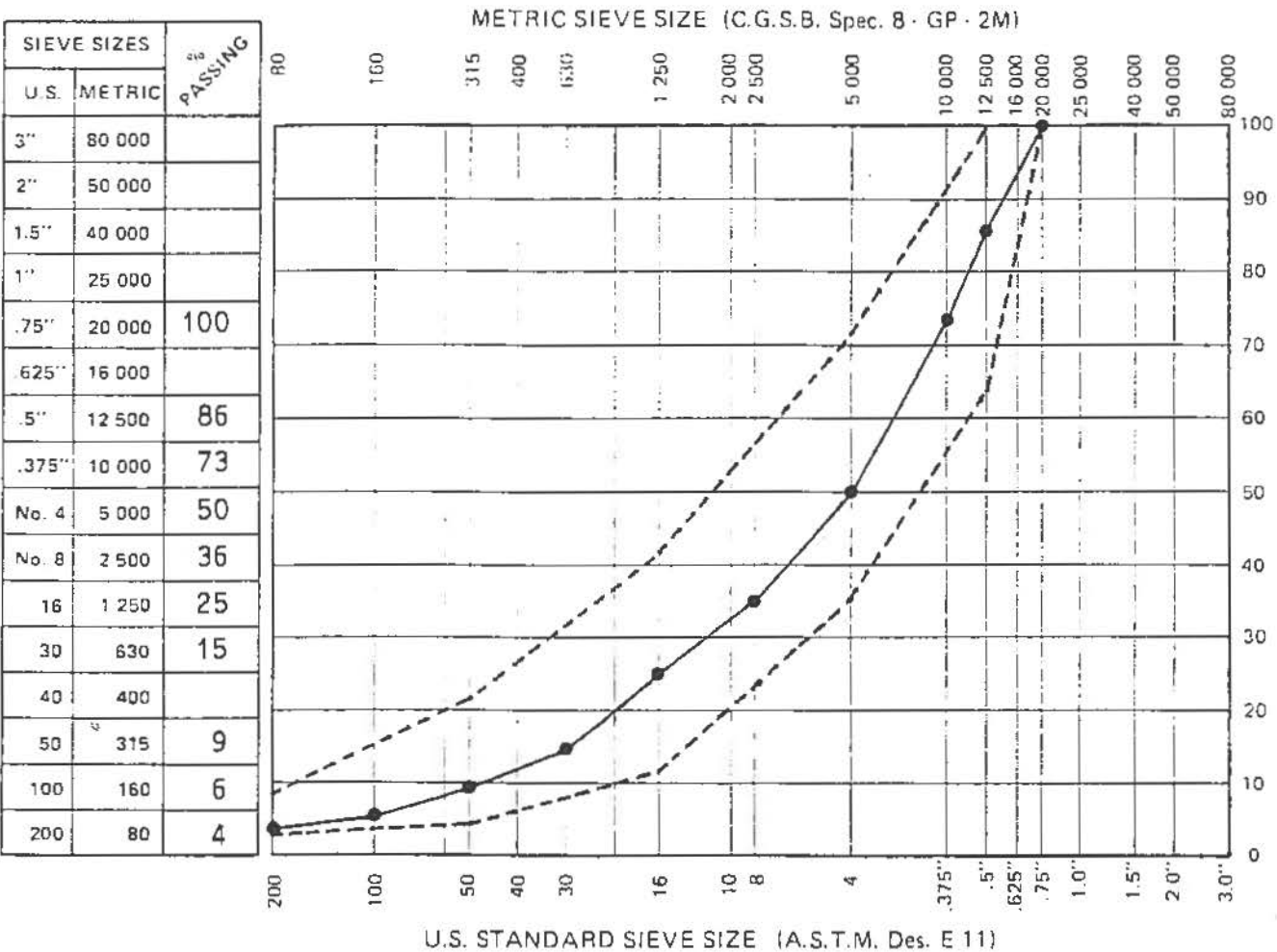
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# EBA Engineering Consultants Ltd.

## AGGREGATE ANALYSIS REPORT

Project: Whitehorse Granular Inventory Sample Number: \_\_\_\_\_  
 Address: Source: Annie Lake Trucking - Sample Description: 20 mm Crushed Gravel  
Ear Lake (Basecourse)  
 Project Number: 0201-10539 Natural Moisture Content: \_\_\_\_\_ %  
 Date Tested: \_\_\_\_\_ Organic Content: \_\_\_\_\_ % State of Alaska Method   
 Client: Government of Yukon Colour Plate No.: \_\_\_\_\_ Other \_\_\_\_\_  
 \_\_\_\_\_ Bulk Relative Density: \_\_\_\_\_  
 Attention: Ms Ann MacDonald Bulk Relative Density (SSD): \_\_\_\_\_  
 \_\_\_\_\_ Apparent Relative Density: \_\_\_\_\_  
 \_\_\_\_\_ Absorption: \_\_\_\_\_ %



Remarks: Average of 13 sieves completed during crushing and placement.

Reviewed By: *[Signature]*



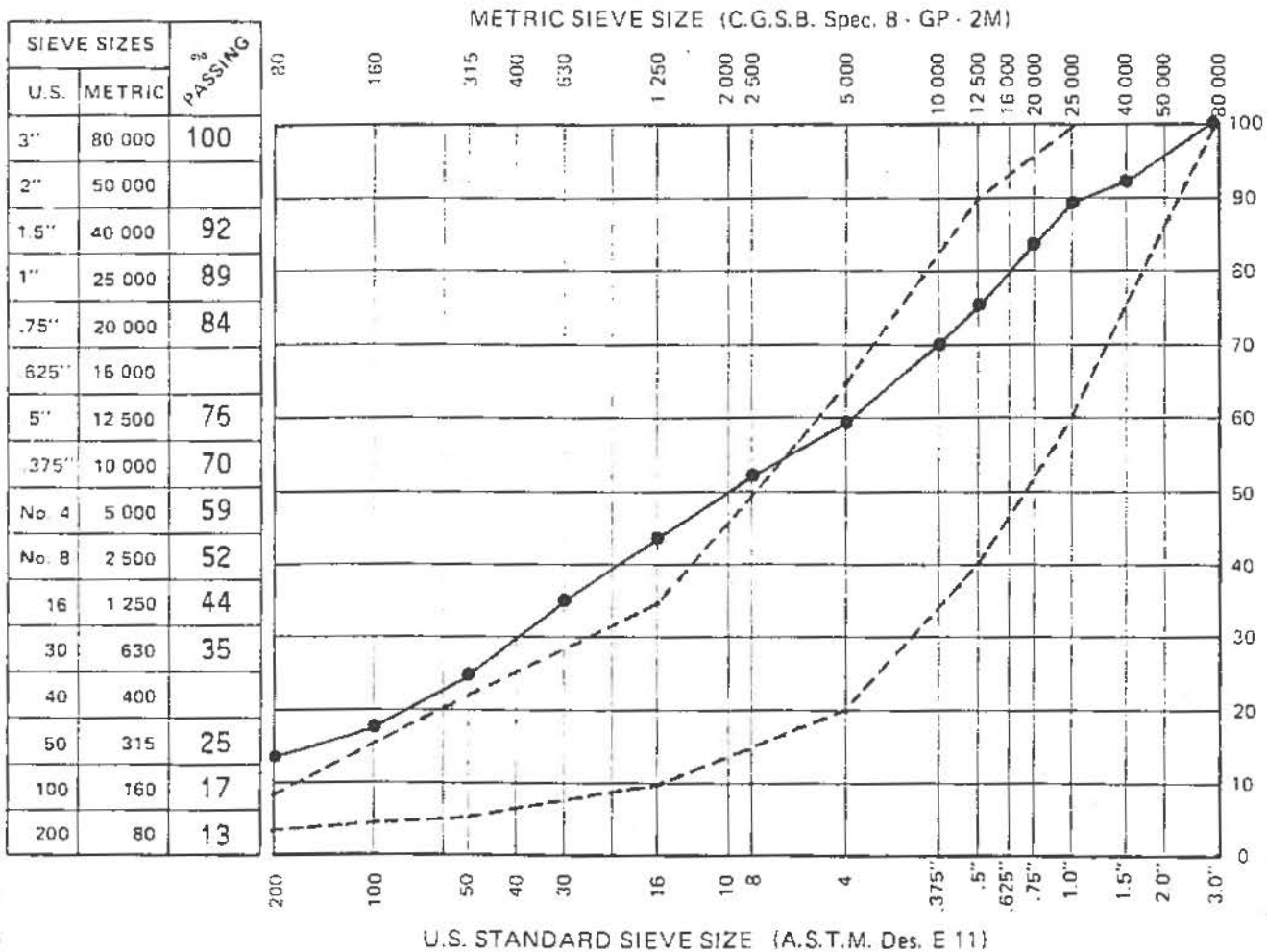
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## AGGREGATE ANALYSIS REPORT

Project: Whitehorse Granular Inventory Sample Number: \_\_\_\_\_  
 Address: Source: Annie Lake Trucking - Ear Lake Sample Description: Pit Run Gravel  
 Project Number: 0201-10539 Natural Moisture Content: \_\_\_\_\_ %  
 Date Tested: \_\_\_\_\_ Organic Content: \_\_\_\_\_ % State of Alaska Method   
 Client: Government of Yukon Colour Plate No.: \_\_\_\_\_ Other \_\_\_\_\_  
 Attention: Ms Ann MacDonald Bulk Relative Density: \_\_\_\_\_  
 Bulk Relative Density (SSD): \_\_\_\_\_  
 Apparent Relative Density: \_\_\_\_\_  
 Absorption: \_\_\_\_\_ %



Remarks: Average of 6 sieves completed during placement.

Reviewed By: *M. Plant*

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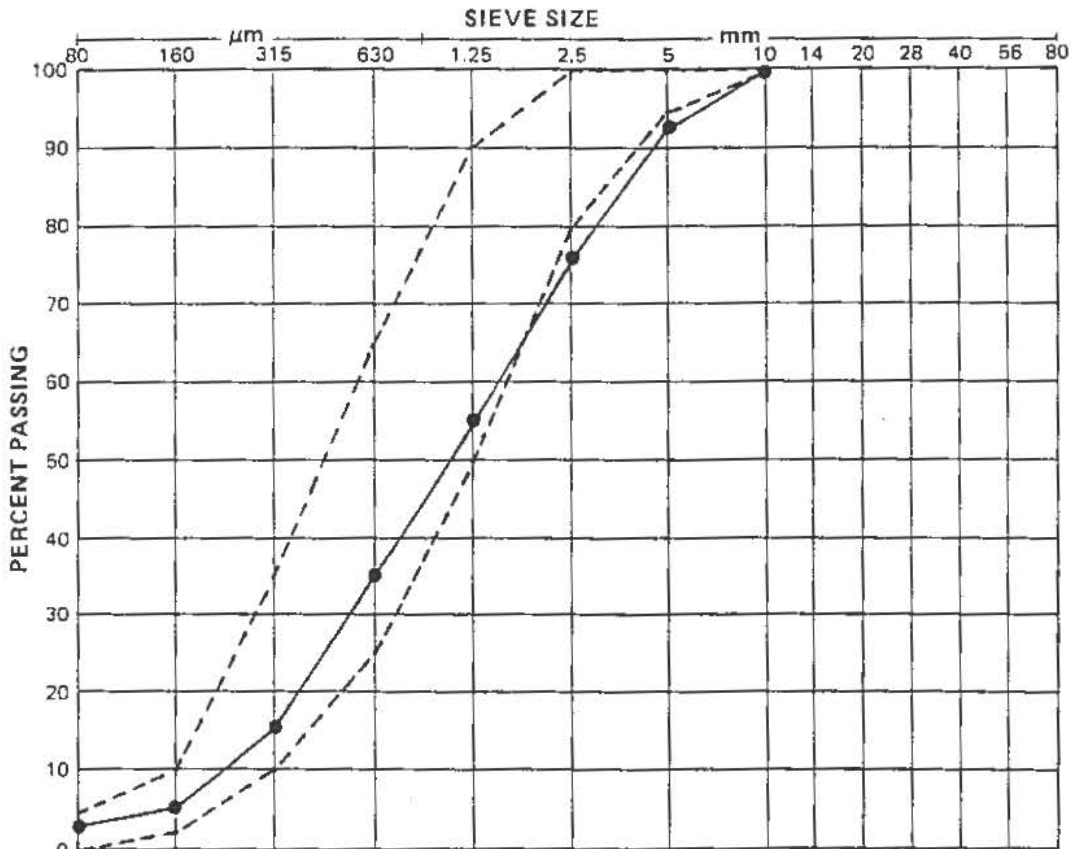


Standard A 283  
Concrete Testing  
Laboratory Type II  
with all Options

## AGGREGATE ANALYSIS REPORT (CONCRETE AGGREGATE)

Project: Whitehorse Granular Inventory Sample Number: \_\_\_\_\_  
 Address: Source: Annie Lake Trucking for Sample Description: Fine Concrete Aggregate  
Territorial Contracting-Ear Lake 10 mm to 80 um  
 Project Number: 0201-10539 Natural Moisture Content: \_\_\_\_\_ %  
 Date Tested: \_\_\_\_\_ By: \_\_\_\_\_ Organic Content: \_\_\_\_\_ %  
State of Alaska Method  
 Client: Government of Yukon Plate Number: \_\_\_\_\_  
Organic Impurities in Sands for Concrete  
 Bulk Relative Density: \_\_\_\_\_  
 Attention: Ms Ann MacDonald Bulk Relative Density (SSD): \_\_\_\_\_  
 Apparent Relative Density: \_\_\_\_\_  
 Absorption: \_\_\_\_\_ %

Sieve	% Passing
80 mm	
56 mm	
40 mm	
28 mm	
20 mm	
14 mm	
10 mm	100
5 mm	92
2.5 mm	76
1.25 mm	55
630 μm	35
315 μm	16
160 μm	5
80 μm	3
F.M.	



Remarks: Average of 8 sieves performed for mix design completion and aggregate compliance

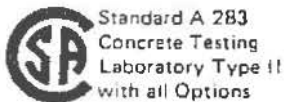
NOTE: A testing service only has been provided in reporting these test data. Engineering interpretation or evaluation of such test data will be provided upon request.

Reviewed By: *M. Plant*

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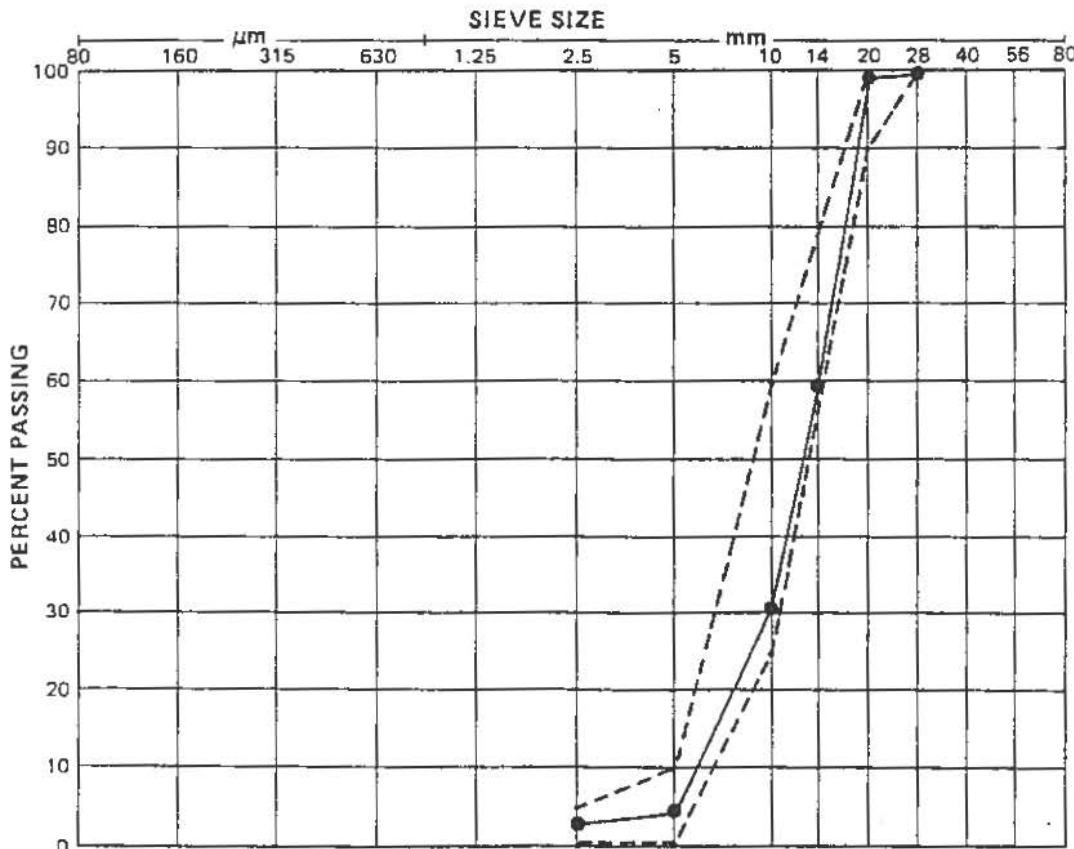
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## AGGREGATE ANALYSIS REPORT (CONCRETE AGGREGATE)

Project: Whitehorse Granular Inventory Sample Number: \_\_\_\_\_  
 Address: Source: Annie Lake Trucking for Sample Description: Coarse Concrete Aggregate  
Territorial Contracting-Ear Lake 28 mm to 5 mm  
 Project Number: 0201-10539 Natural Moisture Content: \_\_\_\_\_ %  
 Date Tested: \_\_\_\_\_ By: \_\_\_\_\_ Organic Content: \_\_\_\_\_ %  
State of Alaska Method  
 Client: Government of Yukon Plate Number: \_\_\_\_\_  
Organic Impurities in Sands for Concrete  
 Bulk Relative Density: \_\_\_\_\_  
 Attention: Ms Ann MacDonald Bulk Relative Density (SSD): \_\_\_\_\_  
 Apparent Relative Density: \_\_\_\_\_  
 Absorption: \_\_\_\_\_ %

Sieve	% Passing
80 mm	
56 mm	
40 mm	
28 mm	100
20 mm	99
14 mm	59
10 mm	31
5 mm	4
2.5 mm	1
1.25 mm	
630 μm	
315 μm	
160 μm	
80 μm	
F.M.	



Remarks: Average of 5 sieves performed for mix design completion and aggregate compliance.

NOTE: A testing service only has been provided in reporting these test data. Engineering interpretation or evaluation of such test data will be provided upon request.

Reviewed By: *M. P. P.*

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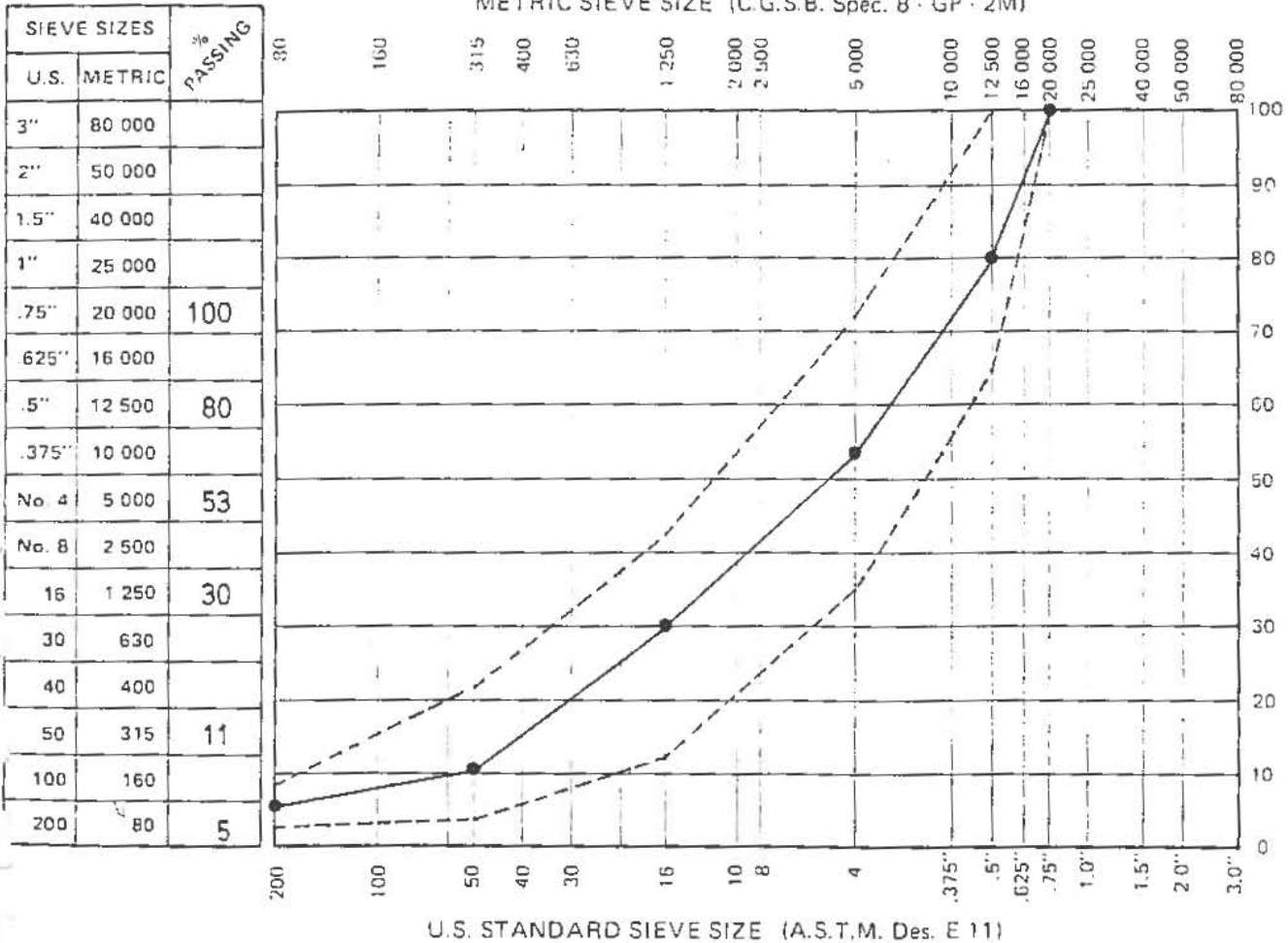
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## AGGREGATE ANALYSIS REPORT

Project: Whitehorse Granular Inventory Sample Number: \_\_\_\_\_  
 Address: Source: Skookum Construction Sample Description: 20 mm Crushed Gravel  
Pit - South Access Basecourse Aggregate  
 Project Number: 0201-10539 Natural Moisture Content: \_\_\_\_\_ %  
 Date Tested: \_\_\_\_\_ Organic Content: \_\_\_\_\_ % State of Alaska Method: \_\_\_\_\_  
 Client: Government of Yukon Colour Plate No.: \_\_\_\_\_ Other: \_\_\_\_\_  
 Bulk Relative Density: \_\_\_\_\_  
 Attention: Ms Ann MacDonald Bulk Relative Density (SSD): \_\_\_\_\_  
 Apparent Relative Density: \_\_\_\_\_  
 Absorption: \_\_\_\_\_ %

METRIC SIEVE SIZE (C.G.S.B. Spec. 8 - GP - 2M)



Remarks: Average of 11 sieves performed during crushing control.

Reviewed By: *M. Hand*



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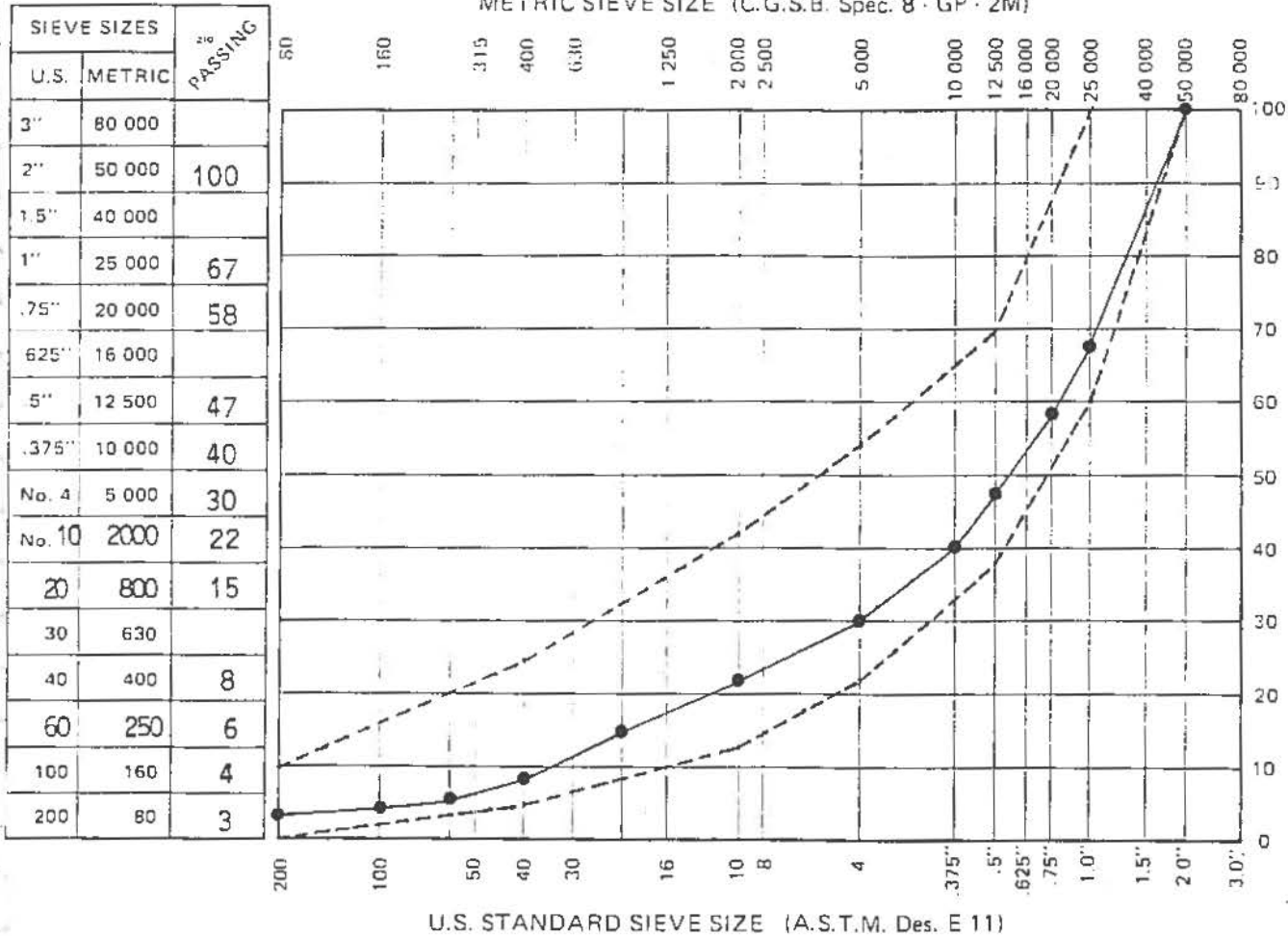
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## AGGREGATE ANALYSIS REPORT

Project: Whitehorse Granular Inventory Sample Number: \_\_\_\_\_  
 Address: Source: Skookum Construction Sample Description: 50 mm Crushed Gravel  
Pit - South Access 50 mm Sub-base Gravel  
 Project Number: 0201-10539 Natural Moisture Content: \_\_\_\_\_ %  
 Date Tested: \_\_\_\_\_ Organic Content: \_\_\_\_\_ % State of Alaska Method: 13  
 Client: Government of Yukon Colour Plate No.: \_\_\_\_\_ Other: \_\_\_\_\_  
 Attention: Ms Ann MacDonald Bulk Relative Density: \_\_\_\_\_  
 Bulk Relative Density (SSD): \_\_\_\_\_  
 Apparent Relative Density: \_\_\_\_\_  
 Absorption: \_\_\_\_\_ %

METRIC SIEVE SIZE (C.G.S.B. Spec. 8 - GP - 2M)



Remarks: Average of 16 sieves completed during crushing control

Reviewed By: *Ms. James*

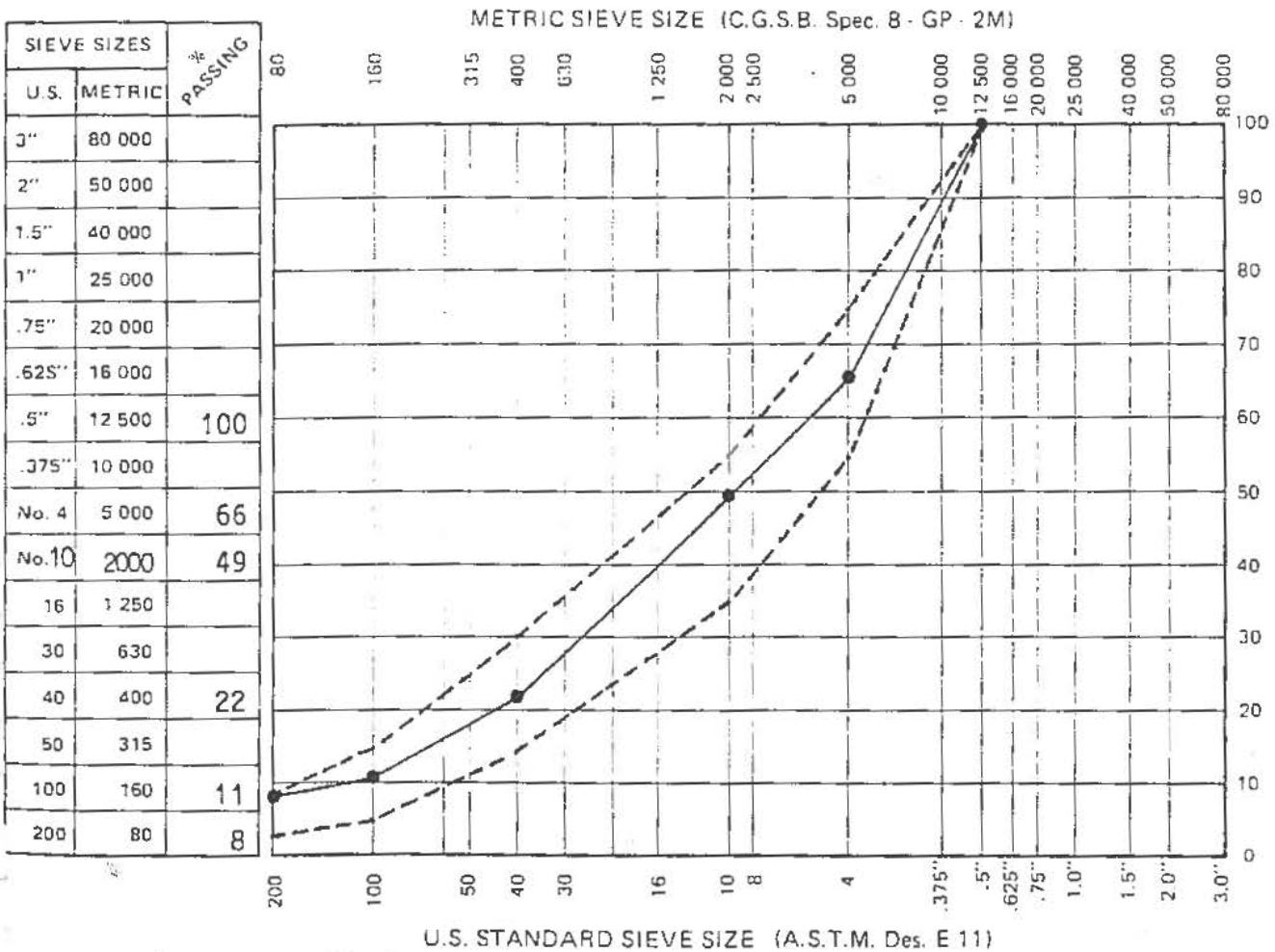
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## AGGREGATE ANALYSIS REPORT

Project: Whitehorse Granular Inventory Sample Number: \_\_\_\_\_  
 Address: Source: Skookum Construction Sample Description: 12.5 mm Asphalt Aggregate  
Pit - South Access  
 Project Number: 0201-10539 Natural Moisture Content: \_\_\_\_\_ %  
 Date Tested: \_\_\_\_\_ Organic Content: \_\_\_\_\_ % State of Alaska Method: \_\_\_\_\_  
 Client: Government of Yukon Colour Plate No.: \_\_\_\_\_ Other: \_\_\_\_\_  
 Bulk Relative Density: \_\_\_\_\_  
 Attention: Ms Ann MacDonald Bulk Relative Density (SSD): \_\_\_\_\_  
 Apparent Relative Density: \_\_\_\_\_  
 Absorption: \_\_\_\_\_ %



Remarks: Average of 58 sieves performed during crushing and asphalt production in 1990 (SINGLE PILE)

Reviewed By: *M. Kant*

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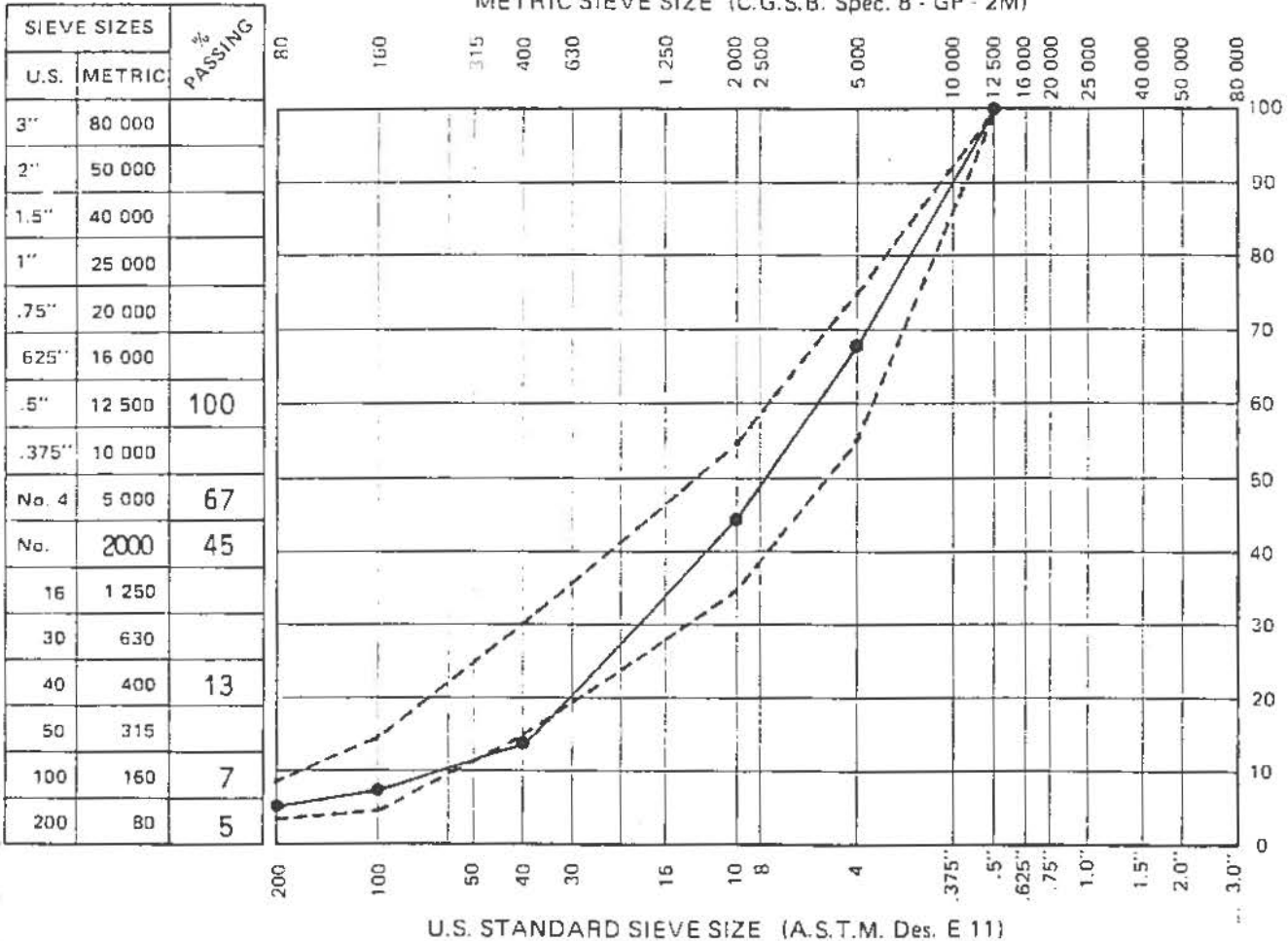


# EBA Engineering Consultants Ltd.

## AGGREGATE ANALYSIS REPORT

Project: Whitehorse Granular Inventory Sample Number: \_\_\_\_\_  
 Address: Source: Skookum Construction Sample Description: 12.5 mm Asphalt Aggregate  
Pit - South Access  
 Project Number: 0201-10539 Natural Moisture Content: \_\_\_\_\_ %  
 Date Tested: \_\_\_\_\_ Organic Content: \_\_\_\_\_ % State of Alaska Method   
 Client: Government of Yukon Colour Plate No.: \_\_\_\_\_ Other \_\_\_\_\_  
 \_\_\_\_\_ Bulk Relative Density: \_\_\_\_\_  
 Attention: Ms Ann MacDonald Bulk Relative Density (SSD): \_\_\_\_\_  
 \_\_\_\_\_ Apparent Relative Density: \_\_\_\_\_  
 \_\_\_\_\_ Absorption: \_\_\_\_\_ %

METRIC SIEVE SIZE (C.G.S.B. Spec. 8 - GP - 2M)



Remarks: Average of 78 sieves performed during crushing and asphalt placement in 1989 (SINGLE PILE)

Reviewed By: *M. Hand*

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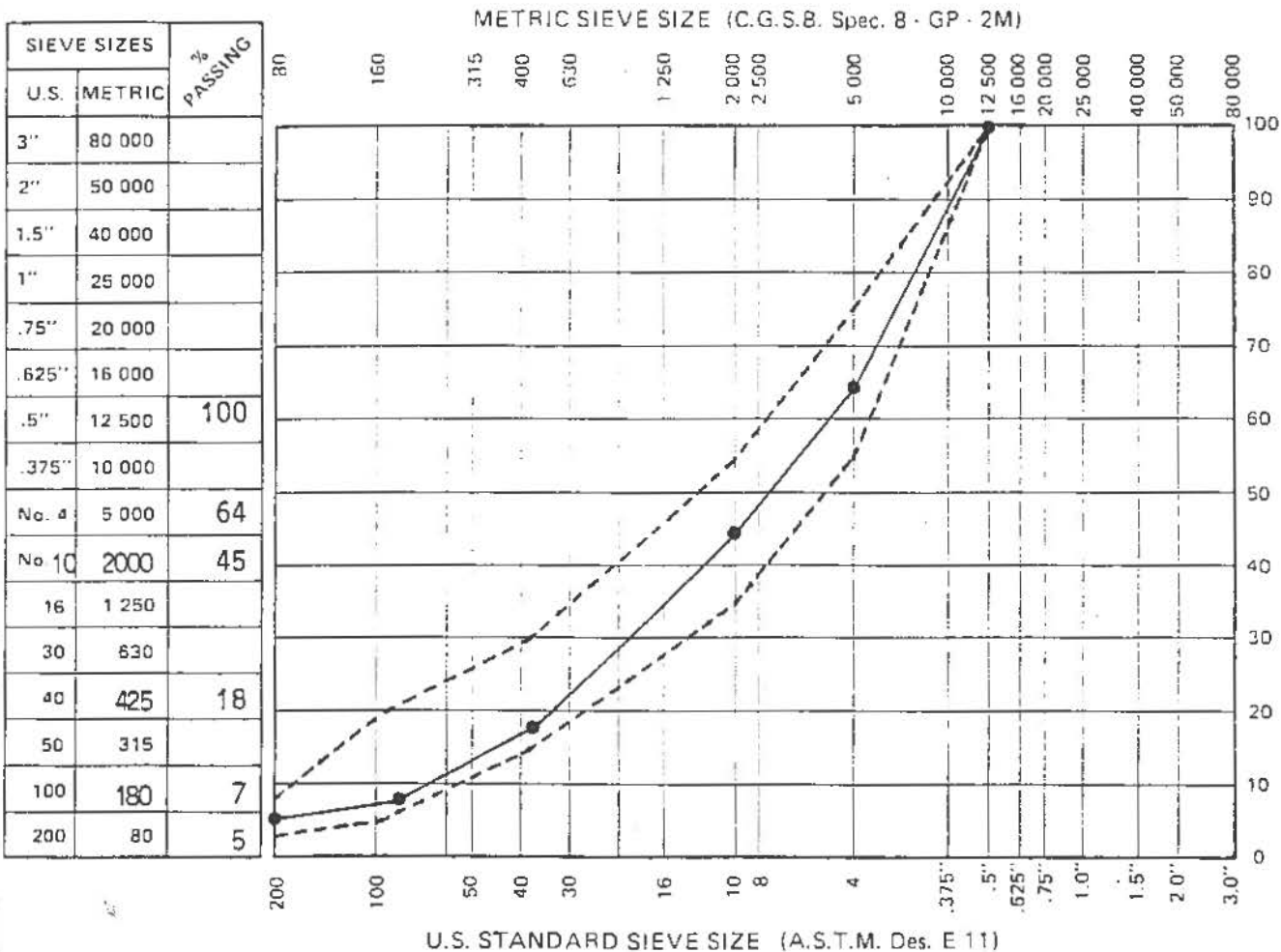
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# EBA Engineering Consultants Ltd.

## AGGREGATE ANALYSIS REPORT

Project: Whitehorse Granular Inventory Sample Number: \_\_\_\_\_  
 Address: Source: Skookum Construction Sample Description: 12.5 mm Asphalt Aggregate  
Pit - South Access Ministry of Transportation Specifications  
 Project Number: 0201-10539 Natural Moisture Content: \_\_\_\_\_ %  
 Date Tested: \_\_\_\_\_ Organic Content: \_\_\_\_\_ % State of Alaska Method \_\_\_\_\_  
 Client: Government of Yukon Colour Plate No.: \_\_\_\_\_ Other \_\_\_\_\_  
 \_\_\_\_\_ Bulk Relative Density: \_\_\_\_\_  
 Attention Ms Ann MacDonald Bulk Relative Density (SSD): \_\_\_\_\_  
 \_\_\_\_\_ Apparent Relative Density: \_\_\_\_\_  
 \_\_\_\_\_ Absorption: \_\_\_\_\_ %



Remarks: Average of 53 sieves performed during asphalt production (SPLIT PILE)

Reviewed By: *M. Hand*

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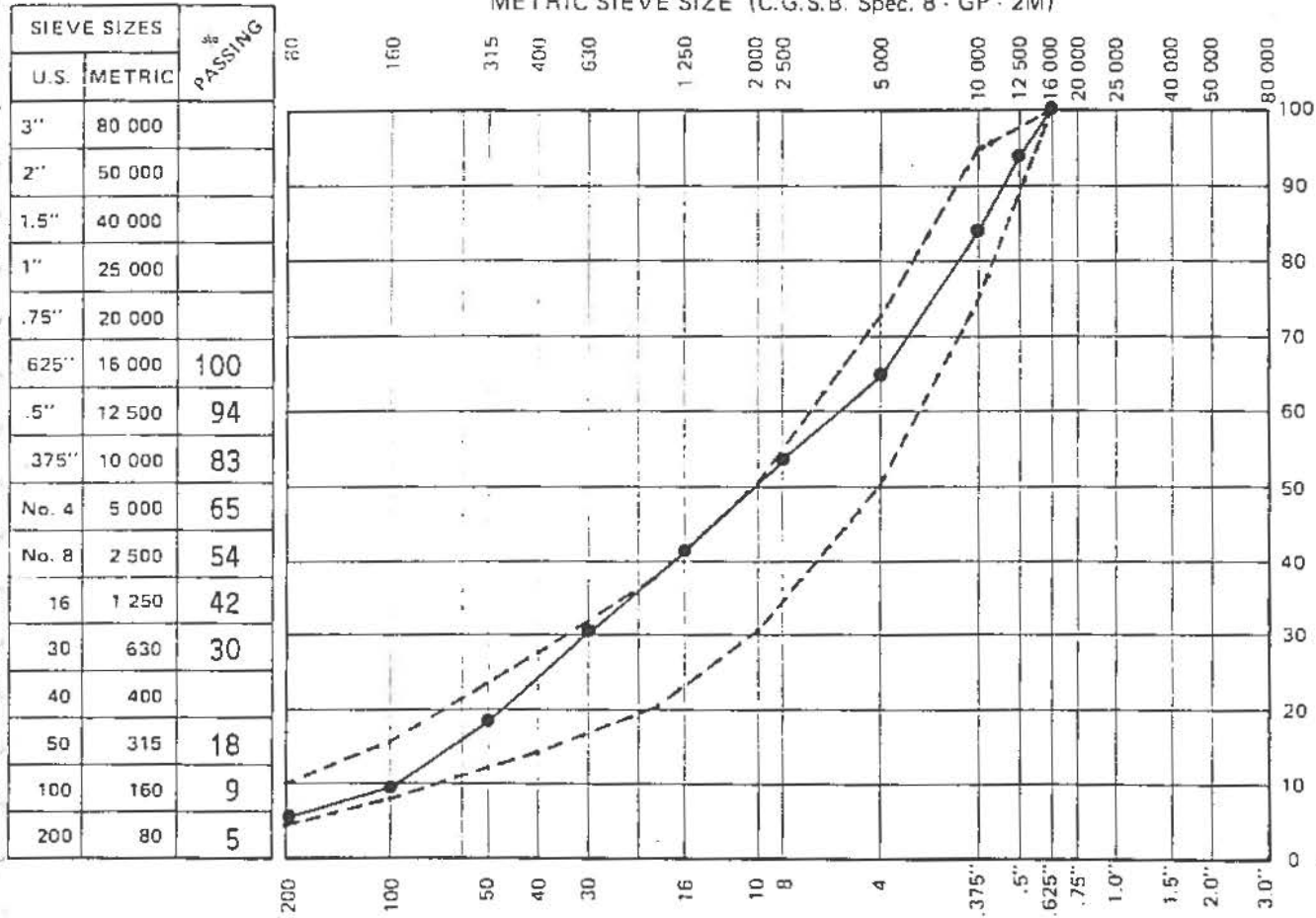


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## AGGREGATE ANALYSIS REPORT

Project: Whitehorse Granular Inventory Sample Number: \_\_\_\_\_  
 Address: Source: Yukon Enterprises Pit Sample Description: 16 mm Asphalt Aggregate  
Alaska Highway at South Access  
 Project Number: 0201-10539 Natural Moisture Content: \_\_\_\_\_ %  
 Date Tested: \_\_\_\_\_ Organic Content: \_\_\_\_\_ % State of Alaska Method   
 Client: Government of Yukon Colour Plate No.: \_\_\_\_\_ Other \_\_\_\_\_  
 \_\_\_\_\_ Organic Impurities \_\_\_\_\_  
 Bulk Relative Density: \_\_\_\_\_  
 Attention: Ms Ann MacDonald Bulk Relative Density (SSD): \_\_\_\_\_  
 Apparent Relative Density: \_\_\_\_\_  
 Absorption: \_\_\_\_\_ %

METRIC SIEVE SIZE (C.G.S.B. Spec. 8 - GP - 2M)



U.S. STANDARD SIEVE SIZE (A.S.T.M. Des. E 11)

Remarks: Average of 20 sieves performed during 1986 asphalt placement.

Reviewed By: *M. Hand*

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# EBA Engineering Consultants Ltd.



Standard A 283  
Concrete Testing  
Laboratory Type II  
with all Options

## AGGREGATE ANALYSIS REPORT (CONCRETE AGGREGATE)

Project: Whitehorse Granular Inventory Sample Number: \_\_\_\_\_  
 Address: Source: Yukon Enterprises Pit Sample Description: Fine Concrete Aggregate  
Alaska Highway at South Access 10 mm to 80 um  
 Project Number: 0201-10539 Natural Moisture Content: \_\_\_\_\_ %  
 Date Tested: \_\_\_\_\_ By: \_\_\_\_\_ Organic Content: \_\_\_\_\_ %  
State of Alaska Method  
 Client: Government of Yukon Plate Number: \_\_\_\_\_  
Organic Impurities in Sands for Concrete  
 Bulk Relative Density: \_\_\_\_\_  
 Attention: Ms Ann MacDonald Bulk Relative Density (SSD): \_\_\_\_\_  
 Apparent Relative Density: \_\_\_\_\_  
 Absorption: \_\_\_\_\_ %

Sieve	% Passing
80 mm	
56 mm	
40 mm	
28 mm	
20 mm	
14 mm	
10 mm	100
5 mm	99
2.5 mm	82
1.25 mm	58
630 μm	26
315 μm	16
160 μm	6
80 μm	2
F.M.	



Remarks: Average of 5 sieves completed for aggregate and mix design compliance.

NOTE: A testing service only has been provided in reporting these test data. Engineering interpretation or evaluation of such test data will be provided upon request.

Reviewed By: *M. Pland*

# EBA Engineering Consultants Ltd.

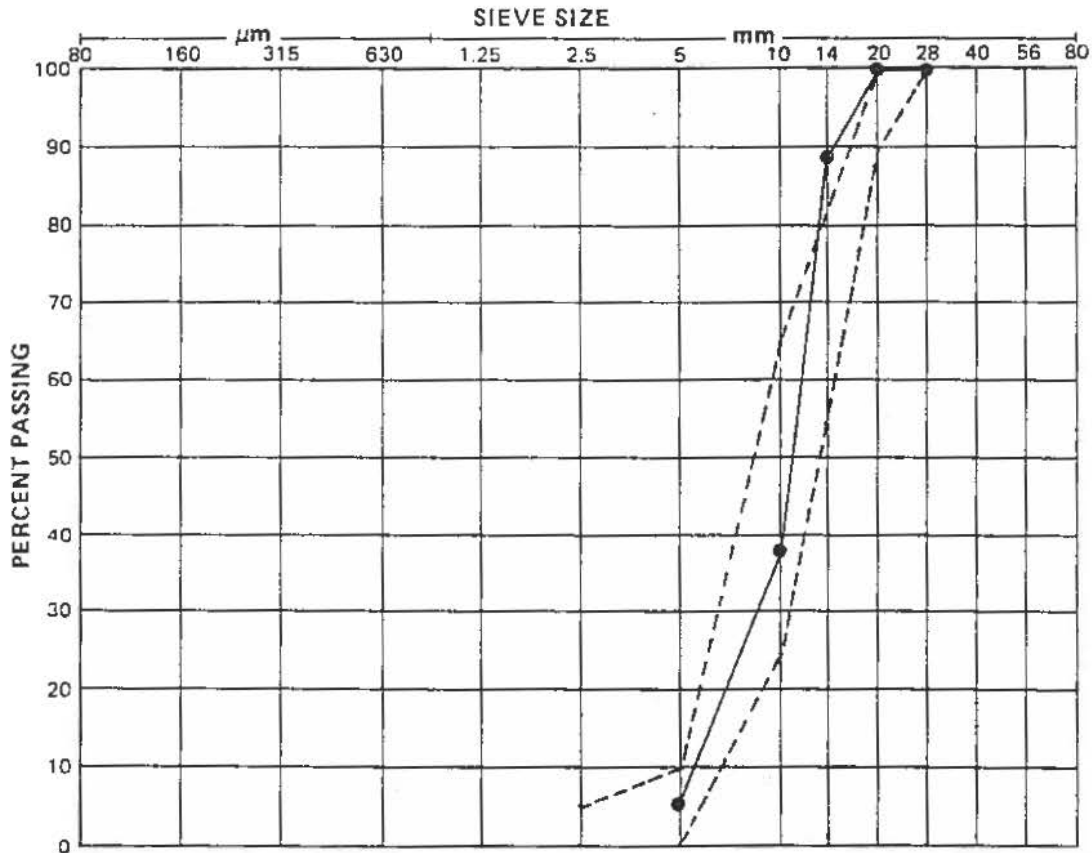


Standard A 283  
Concrete Testing  
Laboratory Type II  
with all Options

## AGGREGATE ANALYSIS REPORT (CONCRETE AGGREGATE)

Project: Whitehorse Granular Inventory Sample Number: \_\_\_\_\_  
 Address: Source: Yukon Enterprises Pit Sample Description: Coarse Concrete Aggregate  
Alaska Highway at South Access 28 mm to 5 mm  
 Project Number: 0201-10539 Natural Moisture Content: \_\_\_\_\_ %  
 Date Tested: \_\_\_\_\_ By: \_\_\_\_\_ Organic Content: \_\_\_\_\_ %  
 Client: Government of Yukon Plate Number: \_\_\_\_\_  
State of Alaska Method  
Organic Impurities in Sands for Concrete  
 Bulk Relative Density: \_\_\_\_\_  
 Attention: Ms Ann MacDonald Bulk Relative Density (SSD): \_\_\_\_\_  
 Apparent Relative Density: \_\_\_\_\_  
 Absorption: \_\_\_\_\_ %

Sieve	% Passing
80 mm	
56 mm	
40 mm	
28 mm	
20 mm	100
14 mm	88
10 mm	38
5 mm	6
2.5 mm	
1.25 mm	
630 μm	
315 μm	
160 μm	
80 μm	
F.M.	



Remarks: Average of 5 sieves performed for aggregate and mix design compliance.

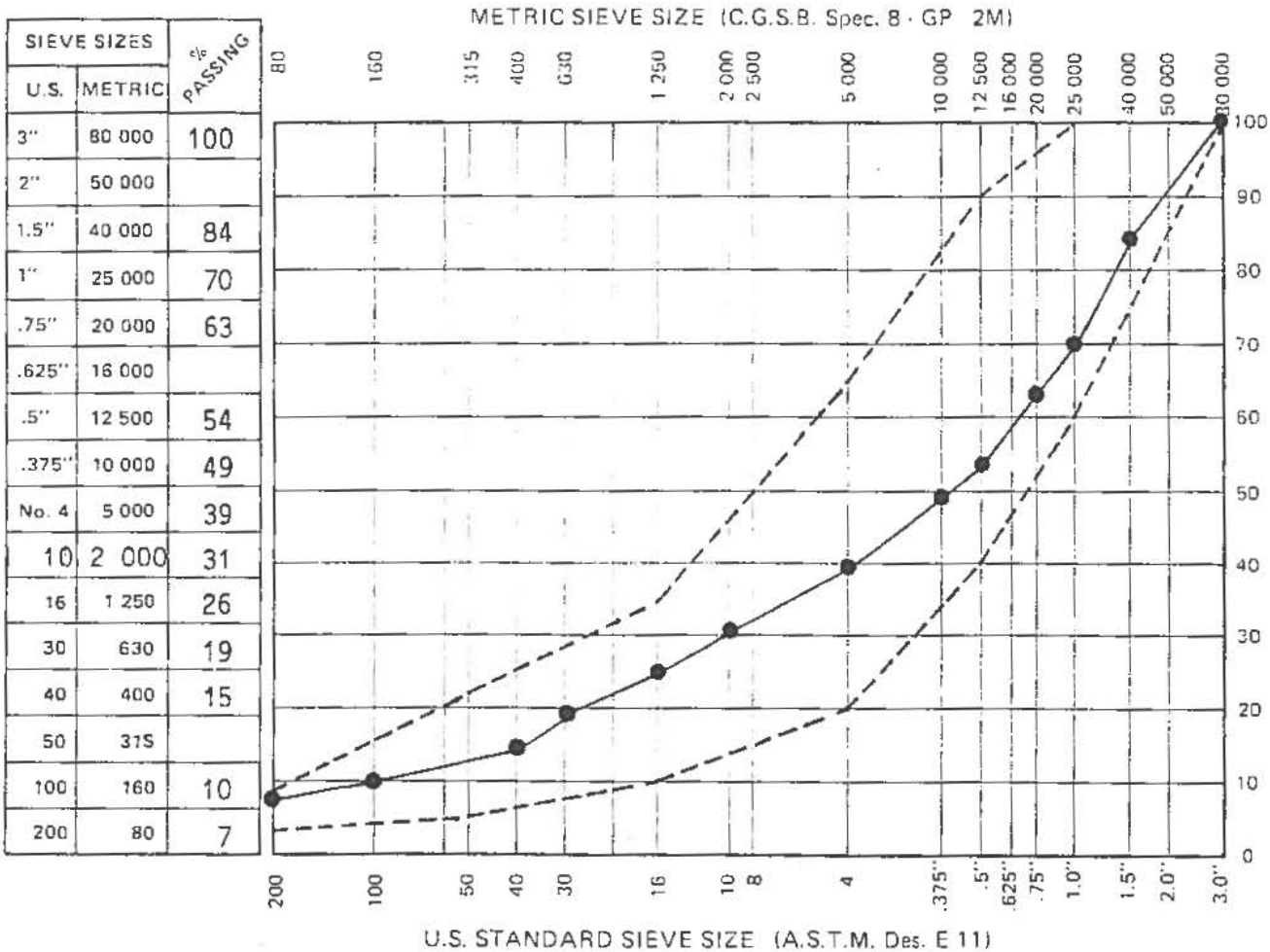
NOTE: A testing service only has been provided in reporting these test data. Engineering interpretation or evaluation of such test data will be provided upon request.

Reviewed By: M. Plant

# EBA Engineering Consultants Ltd.

## AGGREGATE ANALYSIS REPORT

Project: Whitehorse Granular Inventory Sample Number: \_\_\_\_\_  
 Address: Source: McLean Lake Sample Description: Pit Run Gravel  
Quarry Area  
 Project Number: 0201-10539 Natural Moisture Content: \_\_\_\_\_ %  
 Date Tested: \_\_\_\_\_ Organic Content: \_\_\_\_\_ % State of Alaska Method: \_\_\_\_\_  
 Client: Government of Yukon Colour Plate No.: \_\_\_\_\_ Other: \_\_\_\_\_  
 \_\_\_\_\_ Organic Impurities: \_\_\_\_\_  
 \_\_\_\_\_ Bulk Relative Density: \_\_\_\_\_  
 Attention: Ms Ann MacDonald Bulk Relative Density (SSD): \_\_\_\_\_  
 \_\_\_\_\_ Apparent Relative Density: \_\_\_\_\_  
 \_\_\_\_\_ Absorption: \_\_\_\_\_ %



Remarks: Average of 14 sieves performed in conjunction with 1988 test pitting program completed by J.R. Paine & Associates

Reviewed By: *[Signature]*

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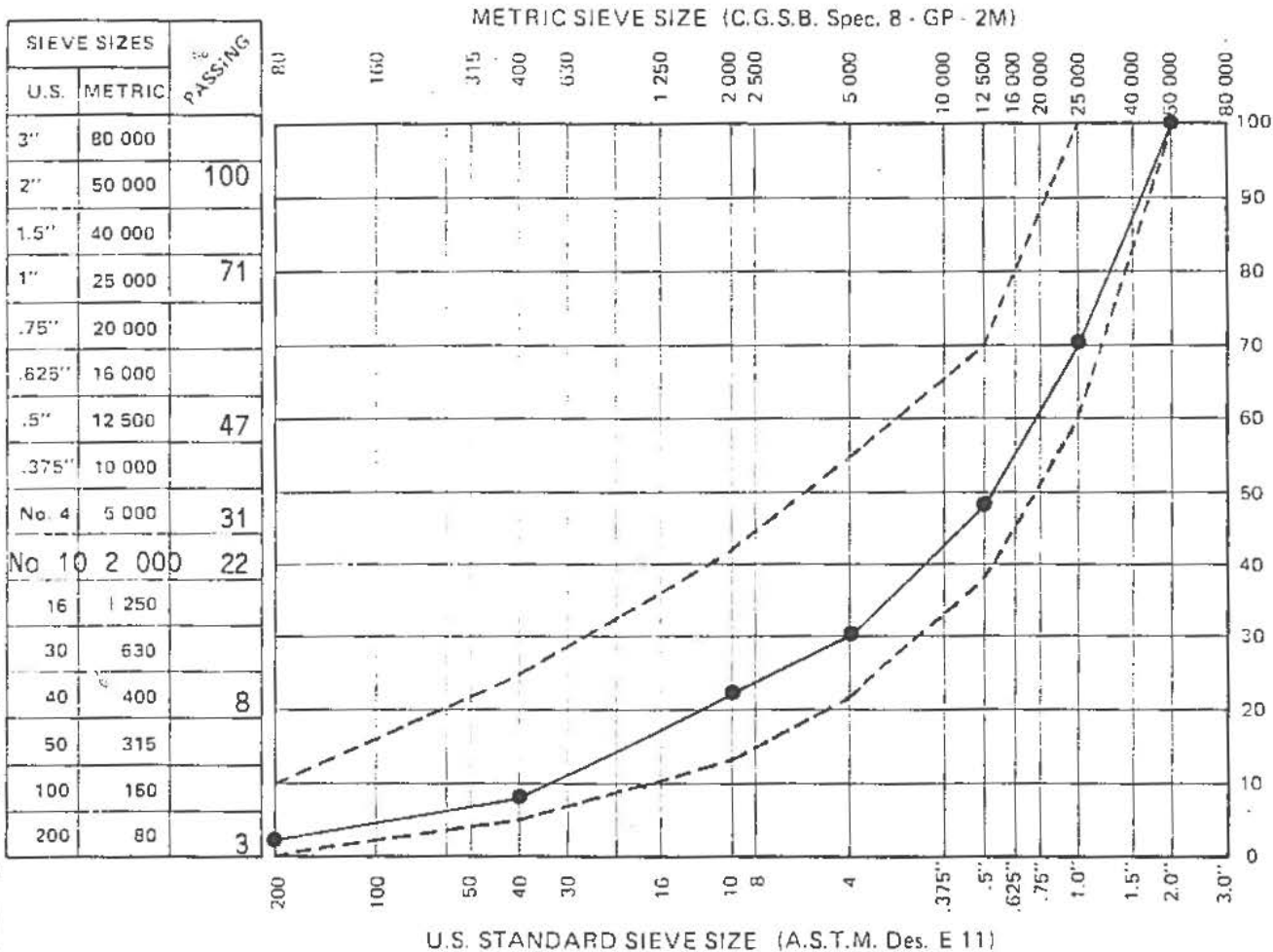
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# EBA Engineering Consultants Ltd.

## AGGREGATE ANALYSIS REPORT

Project: Whitehorse Granular Inventory Sample Number: \_\_\_\_\_  
 Address: Source: Lease H Sample Description: 50 mm Crushed Aggregate  
McLean Lake Quarry Area  
 Project Number: 0201 - 10539 Natural Moisture Content: \_\_\_\_\_ %  
 Date Tested: \_\_\_\_\_ Organic Content: \_\_\_\_\_ % State of Alaska Method   
 Client: Government of Yukon Colour Plate No.: \_\_\_\_\_ Other \_\_\_\_\_  
 \_\_\_\_\_ Organic Impurities \_\_\_\_\_  
 \_\_\_\_\_ Bulk Relative Density: \_\_\_\_\_  
 Attention: Ms Ann MacDonald Bulk Relative Density (SSD): \_\_\_\_\_  
 \_\_\_\_\_ Apparent Relative Density: \_\_\_\_\_  
 \_\_\_\_\_ Absorption: \_\_\_\_\_ %



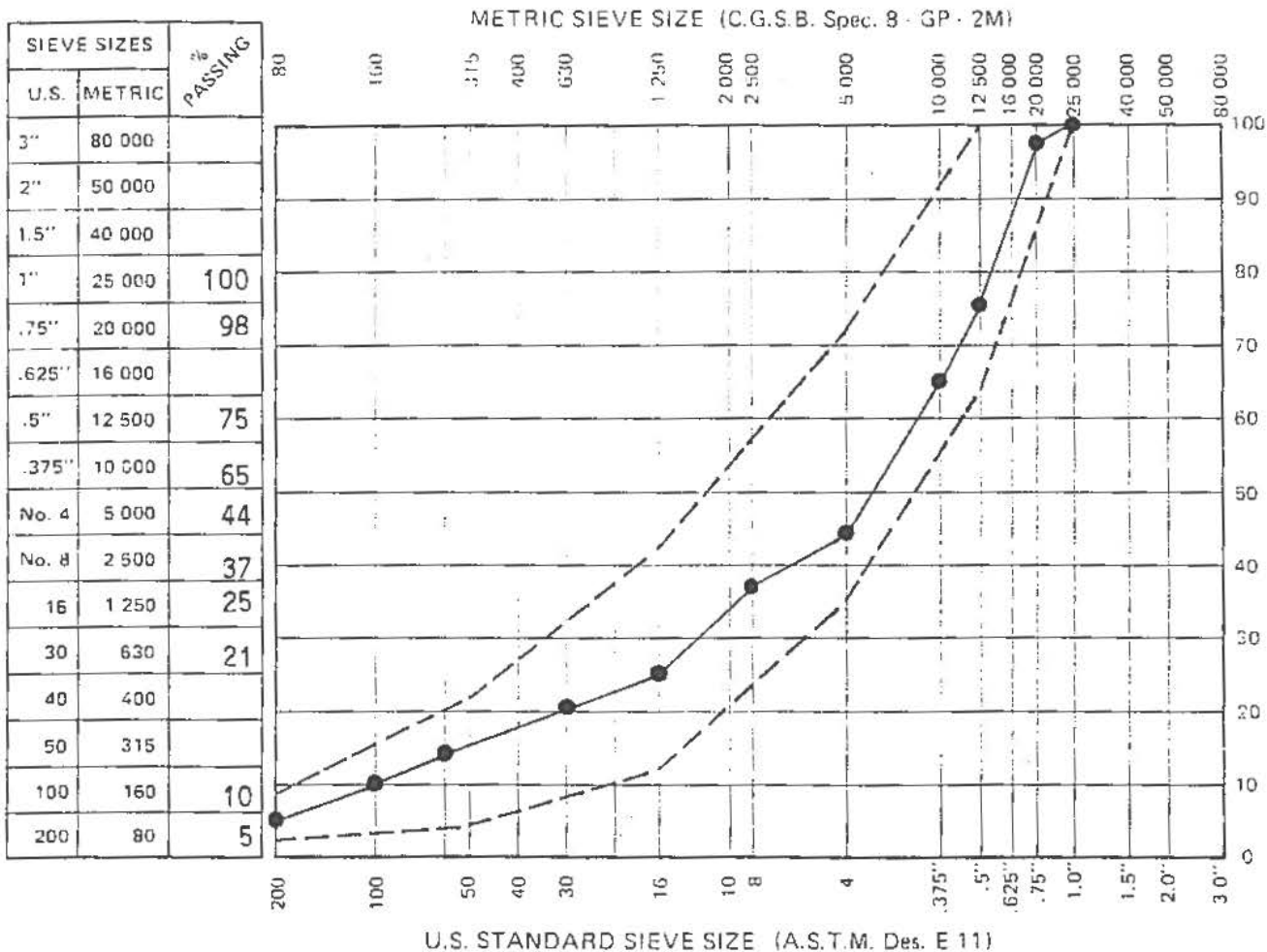
Remarks: Average of 18 sieves completed during crushing in 1989

Reviewed By: *[Signature]*

# EBA Engineering Consultants Ltd.

## AGGREGATE ANALYSIS REPORT

Project: Whitehorse Granular Inventory Sample Number: \_\_\_\_\_  
 Address: Source: McLean Lake Sample Description: 20 mm Crushed Gravel  
Quarry Area (Basecourse)  
 Project Number: 0201-10539 Natural Moisture Content: \_\_\_\_\_ %  
 Date Tested: \_\_\_\_\_ Organic Content: \_\_\_\_\_ % State of Alaska Method: \_\_\_\_\_  
 Client: Government of Yukon Colour Plate No.: \_\_\_\_\_ Other: \_\_\_\_\_  
 Bulk Relative Density: \_\_\_\_\_ Organic Impurities: \_\_\_\_\_  
 Attention: Ms Ann MacDonald Bulk Relative Density (SSD): \_\_\_\_\_  
 Apparent Relative Density: \_\_\_\_\_  
 Absorption: \_\_\_\_\_ %



Remarks: Average of 49 sieves performed during 1988 trial crushing test and 1989 production crushing at lease H

Reviewed By: *[Signature]*

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**Original Report**

Do Not Remove from Building  
Please Return to Geotech

GR-01-005