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

0201-10539

March, 1991

**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.

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

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	Annie Lake Trucking	OPERATOR 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
Blend Sand	X	X	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

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

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

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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

APPENDIX A

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; DS 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.)

BC - 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-001
SPONSOR : Government of Yukon

YEAR : 1977
REPORT TITLE : Inventory of Gravel, Sand, and
Loam Deposits in the
Whitehorse area

CONTACT : Mr. Ross Burnett
CONTRACTOR : R.G. Hilker Limited
FILE NUMBER : (YTG) DV hr.ah 2

DATA QUALITY : Good

LOCATION MAP : 105 D/14:105 D/11:105 D/10

SITE PLAN : Some Pit Plans in Files

NUMBER : 3
FORMAT : NTS Maps
SCALE : 1:50 000
DIGITIZ NO. :
ARCHIVING : Government of Yukon

NUMBER : 1
FORMAT : Blue-line
SCALE : 1:43200
DIGITIZ NO.:
ARCHIVING : Government of Yukon

MINIMUM ZONE : 8 MINIMUM EASTING: 485000 MINIMUM NORTHING: 6715000
MAXIMUM ZONE : 8 MAXIMUM EASTING: 507000 MAXIMUM NORTHING: 6745000
SOURCE NO(S) : WHSE-01, WHSE-03, WHSE-08, WHSE-09, WHSE-10, WHSE-11, WHSE-14,
WHSE-15, WHSE-16, WHSE-17, WHSE-19, WHSE-21

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

STUDY TYPE : Geotechnical
STUDY SCOPE : Many sites
STUDY SIZE : Whitehorse area
SURVEY LEVEL : Random
SURVEY PATTERN: n/a
SURVEY SPACING: n/a

PROGRAM LENGTH: Throughout 1977

SEASON : Unknown

EQUIPMENT TYPE: No field work
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/Data compilation
REPORT DISTRIBUTION : Sponsor
DATA ARCHIVING : Government of Yukon - Lands Branch

EBA PROJECT NUMBER : 0201-10539

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
	MAXIMUM ZONE : 8	MAXIMUM EASTING:	507000
		MINIMUM NORTHING:	6715000
		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 RESOURCE INVENTORY
WHITEHORSE AREA, YUKON
REPORT CATALOGUE DATA SHEET

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

STUDY NUMBER : WHRP-003
SPONSOR : Government of Yukon

YEAR : 1978
REPORT TITLE : Proposed McPherson Acreage
Residential Subdivision,
Phase II

CONTACT : Mr. J.M. Grainger, P.Eng.
CONTRACTOR : Government of Yukon
FILE NUMBER : 2840-2-26

DATA QUALITY : Good

LOCATION MAP : Contour Map

SITE PLAN : Simplified from Base Maps

NUMBER : 1
FORMAT : Photocopy
SCALE : 1:10 000
DIGITIZ NO. :
ARCHIVING : YTG Lands

NUMBER : 2
FORMAT : Photocopy
SCALE : 1:63 000
DIGITIZ NO. :
ARCHIVING : YTG Lands

MINIMUM ZONE : 8 MINIMUM EASTING: 489000
MAXIMUM ZONE : 8 MAXIMUM EASTING: 490000
SOURCE NO(S) : WHSE-01

MINIMUM NORTHING: 6742000
MAXIMUM NORTHING: 6743600

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

STUDY TYPE : Geotechnical
STUDY SCOPE : Site Specific
STUDY SIZE : 1 site: 8 boreholes
SURVEY LEVEL : Exploration (delineation)
SURVEY PATTERN: Random
SURVEY SPACING: 500 m grid

PROGRAM LENGTH: Nov. 23, 1978

SEASON : Fall

EQUIPMENT TYPE: Truck Mounted B40H
PENETRATION(m): 4.3 m
RESOLUTION : 0.1 m

SAMPLING/RECORDING

RATE : Unknown
QUALITY : Poor
TYPE(S) : Grab
SIZE : 3

INTERPRETATION/TESTING LEVEL : Routine classification
REPORT LEVEL : Geotechnical evaluation
REPORT DISTRIBUTION : In house
DATA ARCHIVING : YTG Lands

EBA PROJECT NUMBER : 0201-10539

GRANULAR RESOURCE INVENTORY
WHITEHORSE AREA, YUKON
REPORT CATALOGUE DATA SHEET

***** PART A: STUDY REFERENCE AND LOCATION *****

STUDY NUMBER : WHRP-004
SPONSOR : Government of Yukon

YEAR : 1978
REPORT TITLE : Whitehorse Gravel Survey
Alaska Highway and
Mayo Road

CONTACT : Mr. Ross Burnett (YTG)
CONTRACTOR : R.M. Hardy and Associates
FILE NUMBER : B 4321

DATA QUALITY : Excellent

LOCATION MAP : Simplified topographic map

SITE PLAN : Contour maps

NUMBER : 1
FORMAT : Photocopy
SCALE : 1:50 000
DIGITIZ NO. :
ARCHIVING : YTG

NUMBER : 2
FORMAT : Blueline
SCALE : 1: 6 000
DIGITIZ NO.:
ARCHIVING : YTG

MINIMUM ZONE : 8 MINIMUM EASTING: 485800
MAXIMUM ZONE : 8 MAXIMUM EASTING: 489200
SOURCE NO(S) : WHSE-01

MINIMUM NORTHING: 6741300
MAXIMUM NORTHING: 6744000

***** PART B: STUDY DETAILS *****

STUDY TYPE : Geophysical/Geotechnical
STUDY SCOPE : Site specific
STUDY SIZE : Numerous Geophysical Survey Lines; 17 TH's
SURVEY LEVEL : Exploration/delineation
SURVEY PATTERN: Line
SURVEY SPACING: 25 m intervals

PROGRAM LENGTH: 9 days

SEASON : Summer/fall

EQUIPMENT TYPE: EM31; EM 34; backhoe
PENETRATION(m): up to 20 m
RESOLUTION : Good

SAMPLING/RECORDING

RATE : Random
QUALITY : Good
TYPE(S) : Grab
SIZE : 11 samples

INTERPRETATION/TESTING LEVEL : Routine classification; aggregate suitability
REPORT LEVEL : Geophysical/geotechnical evaluation
REPORT DISTRIBUTION : Contractor/sponsor
DATA ARCHIVING : YTG

EBA PROJECT NUMBER : 0201-10539

GRANULAR RESOURCE INVENTORY
WHITEHORSE AREA, YUKON
REPORT CATALOGUE DATA SHEET

***** PART A: STUDY REFERENCE AND LOCATION *****

STUDY NUMBER : WHRP-005
SPONSOR : Government of Yukon

YEAR : 1979
REPORT TITLE : Whitehorse Gravel Survey
Alaska Highway and
South Access Road

CONTACT : Mr. Ross Burnett (YTG)
CONTRACTOR : R.M. Hardy and Associates
FILE NUMBER : B-4396

DATA QUALITY : Excellent

LOCATION MAP : Simplified Topographic Map

SITE PLAN : Orthophoto enlargements

NUMBER : 1
FORMAT : Photocopy
SCALE : 1:50 000
DIGITIZ NO. :
ARCHIVING : YTG

NUMBER : 3
FORMAT : Orthophotos
SCALE : 1: 3 000
DIGITIZ NO.:
ARCHIVING : YTG

MINIMUM ZONE : 8 MINIMUM EASTING: 496700
MAXIMUM ZONE : 8 MAXIMUM EASTING: 497800
SOURCE NO(S) : WHSE-11

MINIMUM NORTHING: 6726500
MAXIMUM NORTHING: 6727600

***** PART B: STUDY DETAILS *****

STUDY TYPE : Geophysical/geotechnical
STUDY SCOPE : Site specific
STUDY SIZE : 12 Geophysical survey lines; 11 TH's
SURVEY LEVEL : Exploration; delineation
SURVEY PATTERN: Line
SURVEY SPACING: 25 m intervals

PROGRAM LENGTH: 9 days

SEASON : Fall/early winter

EQUIPMENT TYPE: EM 34, EM 31, Schramm drill rig, backhoe
PENETRATION(m): 2 m to 24 m
RESOLUTION : Good

SAMPLING/RECORDING

RATE : Random
QUALITY : Good
TYPE(S) : Grab & cyclone recovery
SIZE : 9 samples

INTERPRETATION/TESTING LEVEL : Routine classification/aggregate suitability
REPORT LEVEL : Geophysical/geotechnical evaluation
REPORT DISTRIBUTION : Contractor/sponsor
DATA ARCHIVING : YTG

EBA PROJECT NUMBER : 0201-10539

GRANULAR RESOURCE INVENTORY
WHITEHORSE AREA, YUKON
REPORT CATALOGUE DATA SHEET

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

STUDY NUMBER : WHRP-006
SPONSOR : Government of Yukon
CONTACT : Mr. Ross Burnett (YTG)
CONTRACTOR : EPEC Consulting Western Ltd.
FILE NUMBER : 6954-025-01-20
LOCATION MAP : None
NUMBER : n/a
FORMAT : n/a
SCALE : 1:
DIGITIZ NO. :
ARCHIVING : n/a
YEAR : 1980
REPORT TITLE : Quarry Management Study
South Access Area
City of Whitehorse
DATA QUALITY : Good
SITE PLAN : Figures 1-8 in Vol.2 of report
NUMBER : 8
FORMAT : Topographic Maps & Blue Lines
SCALE : 1:25 000 & 1:2 000
DIGITIZ NO.:
ARCHIVING : YTG
MINIMUM ZONE : 8
MAXIMUM ZONE : 8
MINIMUM EASTING: 496700
MAXIMUM EASTING: 497800
MINIMUM NORTHING: 6726500
MAXIMUM NORTHING: 6727600
SOURCE NO(S) : WHSE-11

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

STUDY TYPE : Land Use/Planning
STUDY SCOPE : Site specific
STUDY SIZE : n/a
SURVEY LEVEL : n/a
SURVEY PATTERN: n/a
SURVEY SPACING: n/a
PROGRAM LENGTH: n/a
EQUIPMENT TYPE: n/a
PENETRATION(m): n/a
RESOLUTION : n/a
SEASON : n/a
SAMPLING/RECORDING
RATE : n/a
QUALITY : n/a
TYPE(S) : n/a
SIZE : n/a
n/a
INTERPRETATION/TESTING LEVEL : n/a
REPORT LEVEL : Formal Planning and Land Use
REPORT DISTRIBUTION : Government Agencies
DATA ARCHIVING : YTG
EBA PROJECT NUMBER : 0201-10539

GRANULAR RESOURCE INVENTORY
WHITEHORSE AREA, YUKON
REPORT CATALOGUE DATA SHEET

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

STUDY NUMBER : WHRP-007
SPONSOR : Government of Yukon
YEAR : 1982
REPORT TITLE : Assessment of Gravel
Source; McLean Lake Road
Quarry Area - Whitehorse
CONTACT : J.W. Farynowski (J.R. Paine)
CONTRACTOR : J.R. Paine & Associates Ltd.
FILE NUMBER : 35
DATA QUALITY : Good
LOCATION MAP : Airphoto
SITE PLAN : Topographic map
NUMBER : 1
FORMAT : Photocopy
SCALE : 1:20 000
DIGITIZ NO. :
ARCHIVING : YTG/J.R. Paine & Assoc. Ltd.
NUMBER : 1
FORMAT : Photocopy
SCALE : 1:10 000
DIGITIZ NO. :
ARCHIVING : YTG/J.R. Paine & Assoc. Ltd.
MINIMUM ZONE : 8 MINIMUM EASTING: 494000 MINIMUM NORTHING: 6724750
MAXIMUM ZONE : 8 MAXIMUM EASTING: 495150 MAXIMUM NORTHING: 6726300
SOURCE NO(S) : WHSE-13

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

STUDY TYPE : Geotechnical
STUDY SCOPE : Site specific
STUDY SIZE : 17 test holes
SURVEY LEVEL : Exploration/delineation
SURVEY PATTERN: Random
SURVEY SPACING: Random

PROGRAM LENGTH: 3 days

SEASON : Fall

EQUIPMENT TYPE: CME 750 drill rig
PENETRATION(m): 2.6: 4.9: 6.7
RESOLUTION : 0.1 m

SAMPLING/RECORDING

RATE : Regular intervals
QUALITY : Fair
TYPE(S) : Grab
SIZE : 63 samples

INTERPRETATION/TESTING LEVEL : Routine classification
REPORT LEVEL : Summary/data compilation
REPORT DISTRIBUTION : Sponsor/contractors
DATA ARCHIVING : YTG/J.R. Paine & Associates Ltd

EBA PROJECT NUMBER : 0201-10539

GRANULAR RESOURCE INVENTORY
WHITEHORSE AREA, YUKON
REPORT CATALOGUE DATA SHEET

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

STUDY NUMBER : WHRP-008
SPONSOR : Government of Yukon

YEAR : 1984
REPORT TITLE : McLean Lake Gravel
Quarry Area Feasibility Study

CONTACT : Mr. Ross Burnett (YTG)
CONTRACTOR : Stanley Associates Eng. Ltd.
FILE NUMBER : 49-028-01-01

DATA QUALITY : Good to exc.

LOCATION MAP : Listed as Figure 1 in report

SITE PLAN : Figures 2 to 5 in report

NUMBER : 1
FORMAT : Photocopy
SCALE : 1:50 000
DIGITIZ NO. :
ARCHIVING : YTG

NUMBER : 1
FORMAT : Bluelines, topographic maps
SCALE : 1:2000, 1:50 000
DIGITIZ NO.:
ARCHIVING : YTG

MINIMUM ZONE : 8 MINIMUM EASTING: 494000
MAXIMUM ZONE : 8 MAXIMUM EASTING: 495150
SOURCE NO(S) :

MINIMUM NORTHING: 6724750
MAXIMUM NORTHING: 6726300

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

STUDY TYPE : Geotechnical/feasibility study
STUDY SCOPE : Site specific
STUDY SIZE : 30 test holes
SURVEY LEVEL : Exploration/delineation
SURVEY PATTERN: Random
SURVEY SPACING: Random

PROGRAM LENGTH: 3 days

SEASON : Spring

EQUIPMENT TYPE: Drill rigs
PENETRATION(m): 0.3: 5.4: 16.0
RESOLUTION : 0.1

SAMPLING/RECORDING

RATE : Regular intervals
QUALITY : Fair
TYPE(S) : Grab
SIZE : 112

INTERPRETATION/TESTING LEVEL : Routine classification
REPORT LEVEL : Formal feasibility
REPORT DISTRIBUTION : Sponsor/contractor
DATA ARCHIVING : YTG

EBA PROJECT NUMBER : 0201-10539

GRANULAR RESOURCE INVENTORY
WHITEHORSE AREA, YUKON
REPORT CATALOGUE DATA SHEET

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

STUDY NUMBER : WHRP-009
SPONSOR : West Coast Paving

YEAR : 1986
REPORT TITLE : Preliminary Site Evaluation
Lot R - McLean Lake
Gravel Lease

CONTACT : W.C. Kofoed (J.R. Paine)
CONTRACTOR : J.R. Paine & Associates Ltd.
FILE NUMBER : 8046

DATA QUALITY : Good

LOCATION MAP : Lease Map Available

SITE PLAN : Portion of Lease Map

NUMBER : 1
FORMAT : Blueline
SCALE : 1:10 000
DIGITIZ NO. :
ARCHIVING : YTG

NUMBER : 1
FORMAT : Photocopy
SCALE : 1:10 000
DIGITIZ NO.:
ARCHIVING : YTG/J.R. Paine

MINIMUM ZONE : 8 MINIMUM EASTING: 494400 MINIMUM NORTHING: 6725600
MAXIMUM ZONE : 8 MAXIMUM EASTING: 494600 MAXIMUM NORTHING: 6725900
SOURCE NO(S) : WHSE-13

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

STUDY TYPE : Geotechnical
STUDY SCOPE : Site Specific
STUDY SIZE : 1 lease: 6 test pits
SURVEY LEVEL : Delineation
SURVEY PATTERN: Random
SURVEY SPACING: Random

PROGRAM LENGTH: 1 day

SEASON : Fall

EQUIPMENT TYPE: Tracked backhoe
PENETRATION(m): 14 m
RESOLUTION : 0.1 m

SAMPLING/RECORDING

RATE : Regular intervals
QUALITY : Excellent
TYPE(S) : Grab
SIZE : 15

INTERPRETATION/TESTING LEVEL : Routine classification
REPORT LEVEL :
REPORT DISTRIBUTION : Contractor/sponsor
DATA ARCHIVING : YTG/J.R. Paine & Associates Ltd.

EBA PROJECT NUMBER : 0201-10539

GRANULAR RESOURCE INVENTORY
WHITEHORSE AREA, YUKON
REPORT CATALOGUE DATA SHEET

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

STUDY NUMBER : WHRP-010
SPONSOR : Yukon Enterprises
CONTACT : W.C. Kofoed (J.R. Paine)
CONTRACTOR : J.R. Paine & Associates Ltd.
FILE NUMBER : 8011
LOCATION MAP : Lease map available at YTG Lands
NUMBER : 1
FORMAT : Blue line
SCALE : 1:10 000
DIGITIZ NO. :
ARCHIVING : YTG
YEAR : 1986
REPORT TITLE : Preliminary Site Evaluation
Lots L, M, N & O - McLean Lake
DATA QUALITY : Good
SITE PLAN : Portion of lease map
NUMBER : 1
FORMAT : Photocopy
SCALE : 1:10 000
DIGITIZ NO. :
ARCHIVING : YTG
MINIMUM ZONE : 8 MINIMUM EASTING: 494350 MINIMUM NORTHING: 6725850
MAXIMUM ZONE : 8 MAXIMUM EASTING: 494600 MAXIMUM NORTHING: 6726100
SOURCE NO(S) : WHSE-13

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

STUDY TYPE : Geotechnical
STUDY SCOPE : Site specific
STUDY SIZE : 4 leaes; 4 test pits
SURVEY LEVEL : Delineation
SURVEY PATTERN: Random
SURVEY SPACING: Random

PROGRAM LENGTH: 1 day

SEASON : Fall

EQUIPMENT TYPE: Backhoe
PENETRATION(m): 2.5: 3.4: 4.0
RESOLUTION : 0.1 m

SAMPLING/RECORDING

RATE : Regular intervals
QUALITY : Excellent
TYPE(S) : Grab
SIZE : 9 samples

INTERPRETATION/TESTING LEVEL : Routine classification
REPORT LEVEL : Letter report
REPORT DISTRIBUTION : Contractor/sponsor
DATA ARCHIVING : YTG/J.R. Paine & Associates Ltd.

EBA PROJECT NUMBER : 0201-10539

APPENDIX B

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)

EL - 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.

EM - 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. 0.2-1.0-1.6)

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-C1.1)

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 : 8-487500 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 DESCRIPT. DATE : 03/10/91
GENERIC ORIGIN : Glaciofluvial LANDFORMS : Terrace
GRANULAR - TYPE : Gravel/Sand OVERBURDEN - TYPE : Silt
- THICKNESS (m) : >20 m - 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)
TOTAL RECOVERABLE : 5 600 000
ANNUAL RECOVERABLE : N/A
CLASS 1 : 25 000 000
CLASS 2 : 16 000 000
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

PART A: LOCATION AND STATUS -----

SOURCE NUMBER : WHSE-02 STUDY NO. :
NTS MAP REFERENCE : 105D/14 DIGITIZ NO. : MAP SCALE : 1:50,000
UTM ZONE-EASTING : 8-489750 LOCATION : Near Rest Stop
UTM NORTHING : 6740900
LOCAL NAMES(S) : None
CORRIDOR NO./NAME : Alaska Highway
KILOMETRE POST : 1486.5 OFFSET(m) : Left Side of Highway

SOURCE ACCESS : Along Powerline
ACCESS DISTANCE (m) : 0 CONDITION : N/A
AREA (ha) : 35 SITE SCALE: N/A DIGITIZ NO:

LAND TENURE : Zoned OS 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 : Air Photo 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 : Hummocky SLOPE : Northeast
AREA DRAINAGE : Good
SOURCE VEGETATION : White Spruce
PERMAFROST FEATURES : None
ACTIVE LAYER (m) : N/A
GENERIC ORIGIN : Glaciofluvial
GRANULAR - TYPE : Unknown
- THICKNESS (m) : Unknown

DESCRIPT. DATE : 03/01/91
LANDFORMS : Outwash
OVERBURDEN - TYPE : Silt
- THICKNESS (m): Unknown
UNDERBURDEN : Unknown

DEVELOP. CONSTRAINT : Land Claims
DEVELOP. POTENTIAL : Good

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

USC - NUMBER : 0 MOISTURE CONTENT - NUMBER : 0
- CLASS : N/A - RESULTS: 0
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)

TOTAL RECOVERABLE : Unknown
ANNUAL RECOVERABLE : N/A

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

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-03 STUDY NO. : WHRP-001, WHRP-002
NTS MAP REFERENCE : 105D/14 DIGITIZ NO. : MAP SCALE : 1:50000
UTM ZONE-EASTING : 8-490600 LOCATION : 600 m North of Crestview
UTM NORTHING : 6740000
LOCAL NAME(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

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

USC - NUMBER : 1 MOISTURE CONTENT - NUMBER : 0
- CLASS : SP - RESULTS: N/A
SIZE ANALYSIS - NO. : 1 GRAVEL (%) : 47 SAND (%) : 51 FINES (%) : 2
- OVERSIZE (%) : Unknown D-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

CLASS 3 : 0

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 : 105D/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)

TOTAL RECOVERABLE : Unknown
ANNUAL RECOVERABLE : N/A

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

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

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

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

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

SOURCE TOPOGRAPHY : Gently Rolling
AREA DRAINAGE : Well Drained
SOURCE VEGETATION : Mature Pine, Spruce
PERMAFROST FEATURES : None
ACTIVE LAYER (m) : N/A
GENERIC ORIGIN : Alluvial
GRANULAR - TYPE : Gravel (GP/GM)
- THICKNESS (m) : 4 m
SLOPE : Gentle to the North
DESCRIPT. DATE : 03/01/91
LANDFORMS : Terrace
OVERBURDEN - TYPE : Silt
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
- CLASS : N/A
SIZE ANALYSIS - NO. : 0
- OVERSIZE (%) : N/A
GRAVEL (%) : N/A
D-50 (um) : N/A
PETROGRAPHIC ANALYSIS-NO. OF TESTS: 0
RESULTS: N/A
MOISTURE CONTENT - NUMBER : 0
SAND (%) : N/A
- RESULTS: N/A
FINES (%) : N/A

OTHER TESTS (see DATA DICTIONARY): 0

MATERIAL QUANTITY (All in cubic metres)

TOTAL RECOVERABLE : 500 000 (est.)
ANNUAL RECOVERABLE : N/A
CLASS 1 : Unknown
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 NAME(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

GENERIC ORIGIN : Glaciofluvial

GRANULAR - TYPE : GM/GP

- THICKNESS (m) : 1.5:3.0:5.0

DESCRIPT. DATE : 03/01/91

LANDFORMS : Outwash

OVERBURDEN - TYPE : Silt/Silt and Sand

- THICKNESS (m): 0.9:1.2:1.5

UNDERBURDEN : 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 (All in cubic metres)

CLASS 1 : Unknown

CLASS 2 : Unknown

TOTAL RECOVERABLE : 600 000 (est.)

CLASS 3 : Unknown

ANNUAL RECOVERABLE : N/A

CLASS 4 : Unknown

CLASS 5 : Unknown

TOTAL VOLUME : 600000est

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-08 STUDY NO. : WHRP-001, WHRP-002
NTS MAP REFERENCE : 105D/14 DIGITIZ NO. : MAP SCALE : 1:50000
UTM ZONE-EASTING : 7-494250 LOCATION : Mountainview Drive
UTM NORTHING : 6735550
LOCAL NAMES(S) : None
CORRIDOR NO./NAME : Mountainview Drive
KILOMETRE POST : N/A OFFSET(m) : 150 m West

SOURCE ACCESS : No Access
ACCESS DISTANCE (m) : 0 CONDITION : N/A
AREA (ha) : 15 SITE SCALE: None DIGITIZ NO:

LAND TENURE : Zoned OS STATUS : Undeveloped
PAST USE - SOURCE : Borrow STOCKPILE - TYPE : None
PERFORMANCE RATING : Good - 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. : 1
- DEPTH (m): N/A - DEPTH (m): N/A - DEPTH (m) : 10
DATA QUALITY : Poor
SOURCE TOPOGRAPHY : Dissected SLOPE : Moderate Towards Creek
AREA DRAINAGE : Well Drained
SOURCE VEGETATION : Mature Pine
PERMAFROST FEATURES : None
ACTIVE LAYER (m) : N/A DESCRIPT. DATE : 03/01/91
GENERIC ORIGIN : Alluvial LANDFORMS : Terrace
GRANULAR - TYPE : Gravel and Sand OVERBURDEN - TYPE : Silt and Sand
- THICKNESS (m) : Unknown - THICKNESS (m): Unknown
UNDERBURDEN : Unknown

DEVELOP. CONSTRAINT : No Existing Access
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
CLASS 3 : Unknown
CLASS 4 : Unknown
CLASS 5 : Unknown
TOTAL VOLUME : Unknown

TOTAL RECOVERABLE : Unknown
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-09 STUDY NO. : WHRP-001, WHRP-002
NTS MAP REFERENCE : 1050/11 DIGITIZ NO. : MAP SCALE : 1:50000
UTM ZONE-EASTING : 7-494600 LOCATION : 1 km North of 2 Mile Hill
UTM NORTHING : 6734500
LOCAL NAMES(S) : Takhini Pit
CORRIDOR NO./NAME : Alaska Highway
KILOMETRE POST : 1477 OFFSET(m) : 250 m Right

SOURCE ACCESS : Km 1477
ACCESS DISTANCE (m) : 200 CONDITION : Good But Barricaded
AREA (ha) : 50 SITE SCALE: N/A DIGITIZ NO:

LAND TENURE : Zoned OS STATUS : Pit is Reclaimed
PAST USE - SOURCE : Borrow and Crushed Gravel STOCKPILE - TYPE : 0
PERFORMANCE RATING : Good - QUANTITY : N/A

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

INVESTIGATION LEVEL : Air Photo/Delineation LAST INVEST. DATE : 1969
GEOPHYSICAL DATA : None TEST HOLE DENSITY (#/ha) : 0.1
BOREHOLES - NUMBER : 0 TESTPITS - NO. : 5 EXPOSURES - NO. : 2
- DEPTH (m): N/A - DEPTH (m): 3:3.8:4.2 - DEPTH (m) : 3:8:12
DATA QUALITY : Good

SOURCE TOPOGRAPHY : Hummocky SLOPE : Moderate To McIntyre Crk.
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 : Terrace
GRANULAR - TYPE : GW,GP, SM/SP OVERBURDEN - TYPE : Silt
- THICKNESS (m) : 3.0:3.0:37 - THICKNESS (m): 0.0:0.3:1.2
UNDERBURDEN : Unknown

DEVELOP. CONSTRAINT : Near Subdivision/College/Water Lines/Land Claims
DEVELOP. POTENTIAL : Poor

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

USC - NUMBER : 5 MOISTURE CONTENT - NUMBER : 0
- CLASS : GW - RESULTS: N/A
SIZE ANALYSIS - NO. : 5 GRAVEL (%) : 55:65:75 SAND (%) : 23:32:40 FINES (%) : 2:2:3
- OVERSIZE (%) : 10-25% D-50 (um) : 10000

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

OTHER TESTS (see DATA DICTIONARY): 0

MATERIAL QUANTITY (A1) 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 : 03/15/91

EBA PROJECT NUMBER : 0201-10539

GRANULAR RESOURCE INVENTORY
WHITEHORSE AREA, YUKON
SOURCE CATALOGUE DATA SHEET

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

SOURCE NUMBER : WHSE-10 STUDY NO. : WHRP-001, WHRP-008
NTS MAP REFERENCE : 105D/11 DIGITIZ NO. : MAP SCALE : 1:50000
UTM ZONE-EASTING : 7-495200 LOCATION : Across From Airport
UTM NORTHING : 6731250
LOCAL NAMES(S) : Whitepass Tank Farm Area
CORRIDOR NO./NAME : Alaska Highway
KILOMETRE POST : 1474 OFFSET(m) : 150 m Left

SOURCE ACCESS : Along Burns Road
ACCESS DISTANCE (m) : 200 CONDITION : Excellent
AREA (ha) : 95 SITE SCALE: N/A DIGITIZ NO:

LAND TENURE : Zoned OS;CT;MSx;RM;RS STATUS : Dormant
PAST USE - SOURCE : Borrow & Crushed Gravel STOCKPILE - TYPE : None
PERFORMANCE RATING : Good - QUANTITY : N/A

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

INVESTIGATION LEVEL : Airphoto/Delineation LAST INVEST. DATE : 1969
GEOPHYSICAL DATA : None TEST HOLE DENSITY (#/ha) : .15
BOREHOLES - NUMBER : 0 TESTPITS - NO. : 14 EXPOSURES - NO. : 2
- DEPTH (m): N/A - DEPTH (m): 2.0:3.1:4.3 - DEPTH (m) : 20 m
DATA QUALITY : Good

SOURCE TOPOGRAPHY : Rolling SLOPE : Gentle to the East
AREA DRAINAGE : Well Drained
SOURCE VEGETATION : Mature Pine, White Spruce, Aspen
PERMAFROST FEATURES : None
ACTIVE LAYER (m) : N/A DESCRIPT. DATE : 01/01/91
GENERIC ORIGIN : Glacial LANDFORMS : Outwash
GRANULAR - TYPE : GW OVERBURDEN - TYPE : Silt
- THICKNESS (m) : 2.0:4.0:6.0 - THICKNESS (m): 0.6:1.0:1.2
UNDERBURDEN : Unknown

DEVELOP. CONSTRAINT : Hillcrest Subdivision & White Pass Tank Farm
DEVELOP. POTENTIAL : Poor

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

USC - NUMBER : 10 MOISTURE CONTENT - NUMBER : 0
- CLASS : GW; GP; SP - RESULTS: N/A
SIZE ANALYSIS - NO. : 10 GRAVEL (%) : 38:50:61 SAND (%) : 37:46:59 FINES (%) : 1:3:12
- OVERSIZE (%) : <10% D-50 (um) : 5600

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

OTHER TESTS (see DATA DICTIONARY): 0

MATERIAL QUANTITY (All in cubic metres)

TOTAL RECOVERABLE : 4 000 000
ANNUAL RECOVERABLE : N/A

CLASS 1 : 1 000 000
CLASS 2 : 2 000 000
CLASS 3 : 1 000 000
CLASS 4 : 0
CLASS 5 : 0
TOTAL VOLUME : 4 000 000

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-11 STUDY NO. : WHRP-001, WHRP-002, WHRP-005, WHRP-006
NTS MAP REFERENCE : 105D/11 DIGITIZ NO. : MAP SCALE : 1:50000
UTM ZONE-EASTING : 8-497300 LOCATION : South Access & Alaska Hwy
UTM 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 CONDITION : 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

UNDERBURDEN : 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 : 2 400 000

CLASS 3 : 1 000 000

ANNUAL RECOVERABLE : N/A

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-12 STUDY NO. :
NTS MAP REFERENCE : 105D/11 DIGITIZ NO. : MAP SCALE : 1:50000
UTM ZONE-EASTING : 8-497000 LOCATION : 1.2 km South of S. Access
UTM NORTHING : 6726400
LOCAL NAMES(S) : Squatter's Row
CORRIDOR NO./NAME : Alaska Highway
KILOMETRE POST : 1474.8 OFFSET(m) : Left Side

SOURCE ACCESS : Along Alaska Highway at Squatter's Row
ACCESS DISTANCE (m) : 2000 CONDITION : Good
AREA (ha) : 45 SITE SCALE: N/A DIGITIZ NO:

LAND TENURE : Zoned OS, MSx, CT STATUS : Undeveloped
PAST USE - SOURCE : Borrow STOCKPILE - TYPE : None
PERFORMANCE RATING : Good - 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) : 0.07
BOREHOLES - NUMBER : 0 TESTPITS - NO. : 1 EXPOSURES - NO. : 2
- DEPTH (m): N/A - DEPTH (m): 4.0 - DEPTH (m) : 2.0-3.0

DATA QUALITY : Poor
SOURCE TOPOGRAPHY : Rolling SLOPE : Gentle to Moderate
AREA DRAINAGE : Well Drained

SOURCE VEGETATION : White Spruce
PERMAFROST FEATURES : None
ACTIVE LAYER (m) : N/A
GENERIC ORIGIN : Glacial
GRANULAR - TYPE : GM/GW
- THICKNESS (m) : 10 m

DESCRIPT. DATE : 03/01/91
LANDFORMS : Outwash
OVERBURDEN - TYPE : Silt/Silty Sand
- THICKNESS (m): 1.0 - 1.5 m
UNDERBURDEN : Unknown

DEVELOP. CONSTRAINT : Industrial & Residential Development (Squatters)
DEVELOP. POTENTIAL : Fair

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

USC - NUMBER : 1 MOISTURE CONTENT - NUMBER : 1
- CLASS : GM/GW - RESULTS: 2.8
SIZE ANALYSIS - NO. : 1 GRAVEL (%) : 55 SAND (%) : 35 FINES (%) : 10
- OVERSIZE (%) : 20% D-50 (um) : 3000

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

OTHER TESTS (see DATA DICTIONARY): 0

MATERIAL QUANTITY (All in cubic metres)

CLASS 1 : 500 000
CLASS 2 : 1 000 000
CLASS 3 : 500 000
CLASS 4 : 0
CLASS 5 : 0

TOTAL RECOVERABLE : 2 000 000
ANNUAL RECOVERABLE : N/A

TOTAL VOLUME : 2 000 000

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 : 1050/11 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 ORIGIN : 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:SM 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-14 STUDY NO. : WHP-001
NTS MAP REFERENCE : 105D/11 DIGITIZ NO. : MAP SCALE : 1:50000
UTM ZONE-EASTING : 8-499850 LOCATION : Across From MacRae Subd'n
UTM NORTHING : 6722000
LOCAL NAMES(S) : MacRae Industrial Area
CORRIDOR NO./NAME : Alaska Hwy.
KILOMETRE POST : 1463 OFFSET(m) : 200 m Left

SOURCE ACCESS : Access to Towers
ACCESS DISTANCE (m) : 200 CONDITION : Good
AREA (ha) : 40 SITE SCALE: N/A DIGITIZ NO:

LAND TENURE : Zoned MH & RC STATUS : Undeveloped
PAST USE - SOURCE : Borrow STOCKPILE - TYPE : None
PERFORMANCE RATING : Unknown - 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) : 0.15
BOREHOLES - NUMBER : 6 TESTPITS - NO. : 0 EXPOSURES - NO. : 1
- DEPTH (m): 2.9:3.6:4.3 - DEPTH (m): N/A - DEPTH (m) : 10

DATA QUALITY : Fair
SOURCE TOPOGRAPHY : Rolling SLOPE : Gentle to the East
AREA DRAINAGE : Well Drained
SOURCE VEGETATION : Mature Pine, White Spruce, Aspen
PERMAFROST FEATURES : None
ACTIVE LAYER (m) : N/A DESCRIPT. DATE : 03/01/91
GENERIC ORIGIN : Glaciofluvial LANDFORMS : Outwash
GRANULAR - TYPE : GM/GW-GP OVERBURDEN - TYPE : Silt
- THICKNESS (m) : 2.1:3.3:4.0 Silty Sand
- THICKNESS (m): 0.3:0.3:0.4
UNDERBURDEN : Unknown

DEVELOP. CONSTRAINT : Residential, Commercial Dev. Plans/ Land Claims
DEVELOP. POTENTIAL : Poor

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

USC - NUMBER : 12 MOISTURE CONTENT - NUMBER : 0
- CLASS : GW:GP:GM/GW SAND (%) : 13:40:56 RESULTS: N/A
SIZE ANALYSIS - NO. : 12 GRAVEL (%) : 41:56:86 FINES (%) : 1:4:8
- OVERSIZE (%) : <10% D-50 (um) : 2000:5000:12500
PETROGRAPHIC ANALYSIS-NO. OF TESTS: 0 RESULTS: N/A

OTHER TESTS (see DATA DICTIONARY): 0

MATERIAL QUANTITY (All in cubic metres)

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

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-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

GENERIC ORIGIN : Glaciofluvial

GRANULAR - TYPE : GW: GP

- THICKNESS (m) : 4:5:7

DESCRIPT. DATE : 03/01/91

LANDFORMS : Outwash

OVERBURDEN - TYPE : Silt

- 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

CLASS 3 : 100 000

CLASS 4 : 0

CLASS 5 : 0

TOTAL VOLUME : 800 000

TOTAL RECOVERABLE : 800 000

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-16 STUDY NO. : WHRP-001
NTS MAP REFERENCE : 105D/10 DIGITIZ NO. : MAP SCALE : 1:50 000
UTM ZONE-EASTING : 8-501500 LOCATION : North End of Subdivision
UTM NORTHING : 6720350
LOCAL NAME(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 HOLE 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
ANNUAL RECOVERABLE : n/a
CLASS 1 : 100 000
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. : WHRP-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 NAMES(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

GENERIC ORIGIN : Alluvial

GRANULAR - TYPE : GP;SP;GW;GM

- THICKNESS (m) : 4.0:3.3:2.5

DESCRIPT. DATE : 03/01/91

LANDFORMS : Terrace

OVERBURDEN - TYPE : Silty sand

- 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-18 STUDY NO. :
NTS MAP REFERENCE : 105D/10 DIGITIZ NO. : MAP SCALE : 1:50 000
UTM ZONE-EASTING : 8-501850 LOCATION : Across from Wolf Creek Campground
UTM NORTHING : 6718500
LOCAL NAMES(S) : Cadet Camp
CORRIDOR NO./NAME : Alaska Highway
KILOMETRE POST : 1458.5 OFFSET(m) : 300 m Left

SOURCE ACCESS : Cadet Camp Access
ACCESS DISTANCE (m) : 2500 CONDITION : Good
AREA (ha) : 25 SITE SCALE: N/A DIGITIZ NO:

LAND TENURE : Zoned RC and PD STATUS : Undeveloped
PAST USE - SOURCE : Undeveloped STOCKPILE - TYPE : None
PERFORMANCE RATING : Unknown - QUANTITY : N/A

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

INVESTIGATION LEVEL : Air Photo/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 : SLOPE : Towards Wolf Creek

AREA DRAINAGE : Well-Drained

SOURCE VEGETATION : Mature Spruce

PERMAFROST FEATURES : None

ACTIVE LAYER (m) : N/A

GENERIC ORIGIN : Alluvial

GRANULAR - TYPE : Gravel

- THICKNESS (m) : Unknown

DESCRIPT. DATE : 03/01/91

LANDFORMS : Terrace

OVERBURDEN - TYPE : Silt, Sandy Silt

- THICKNESS (m): Unknown

UNDERBURDEN : Unknown

DEVELOP. CONSTRAINT : Existing Country Residential and Cadet Camp

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

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-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)
TOTAL RECOVERABLE : Unknown CLASS 1 : Unknown
ANNUAL RECOVERABLE : Unknown CLASS 2 : 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-20 STUDY NO. :
 NTS MAP REFERENCE : 105D/11 DIGITIZ NO. : MAP SCALE : 1:50 000
 UTM ZONE-EASTING : 8-491340 LOCATION : 1.7 km S of Fish Lk. Rd.
 UTM NORTHING : 6730000
 LOCAL NAMES(S) : Fish Lake Pit
 CORRIDOR NO./NAME : Whitehorse Copper Haul Road
 KILOMETRE POST : 1.7 OFFSET(m) : 150 m Left

SOURCE ACCESS : Pit Entrance
 ACCESS DISTANCE (m) : 75 CONDITION : Good
 AREA (ha) : 6.5 SITE SCALE: n/a DIGITIZ NO:

LAND TENURE : Quarry Lease (Skookum) STATUS : Inactive
 PAST USE - SOURCE : 40 mm & 20 mm crush STOCKPILE - TYPE : None
 PERFORMANCE RATING : Good - QUANTITY : n/a

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

INVESTIGATION LEVEL : Airphoto/Production LAST INVEST. DATE : 1991
 GEOPHYSICAL DATA : None TEST HOLE DENSITY (#/ha) : 0.3
 BOREHOLES - NUMBER : 0 TESTPITS - NO. : 0 EXPOSURES - NO. : 2
 - DEPTH (m): n/a - DEPTH (m): n/a - DEPTH (m) : 4.5 m

DATA QUALITY : Good
 SOURCE TOPOGRAPHY : Gently rolling SLOPE : Towards the East
 AREA DRAINAGE : Well to poorly drained
 SOURCE VEGETATION : Mature spruce
 PERMAFROST FEATURES : Dwarf black spruce
 ACTIVE LAYER (m) : Unknown
 GENERIC ORIGIN : Alluvial
 GRANULAR - TYPE : GP DESCRIPT. DATE : 03/01/91
 - THICKNESS (m) : 4.0 m LANDFORMS : Fan
 OVERBURDEN - TYPE : Silt
 - THICKNESS (m): < 1.0 m
 UNDERBURDEN : Silt

DEVELOP. CONSTRAINT : Water Table
 DEVELOP. POTENTIAL : Good

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

USC - NUMBER : 8 MOISTURE CONTENT - NUMBER : 0
 - CLASS : GM/GP - RESULTS: n/a
 SIZE ANALYSIS - NO. : 8 GRAVEL (%) : 61:52:46 SAND (%) : 49:41:33 FINES (%) : 10:7:4
 - OVERSIZE (%) : 30% D-50 (um) : 7 000:300:4 000

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

OTHER TESTS (see DATA DICTIONARY): Crush Count - 3 tests -75:71:63

MATERIAL QUANTITY (All in cubic metres)

	CLASS 1 :	50 000
	CLASS 2 :	100 000
TOTAL RECOVERABLE :	CLASS 3 :	0
ANNUAL RECOVERABLE :	CLASS 4 :	0
	CLASS 5 :	0
	TOTAL VOLUME :	150 000

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-21 STUDY NO. : WHRP-001
NTS MAP REFERENCE : 1050/14 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
GENERIC ORIGIN : Glaciofluvial
GRANULAR - TYPE : Gravel and sand
- THICKNESS (m) : Unknown

DESCRIPT. DATE : 03/01/91
LANDFORMS : Esker
OVERBURDEN - TYPE : Unknown
- THICKNESS (m): Unknown
UNDERBURDEN : Unknown

DEVELOP. CONSTRAINT : Distance to downtown Whitehorse, Landclaims
DEVELOP. 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
CLASS 2 : Unknown
CLASS 3 : Unknown
CLASS 4 : Unknown
CLASS 5 : Unknown
TOTAL VOLUME : Unknown

TOTAL RECOVERABLE : Unknown
ANNUAL RECOVERABLE : 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 NAME(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
GENERIC ORIGIN : Glaciofluvial
GRANULAR - TYPE : Unknown
- THICKNESS (m) : Unknown

DESCRIPT. DATE : 03/01/91
LANDFORMS : Outwash
OVERBURDEN - TYPE : 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 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 : Unknown CLASS 1 : Unknown
ANNUAL RECOVERABLE : n/a CLASS 2 : 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

APPENDIX C

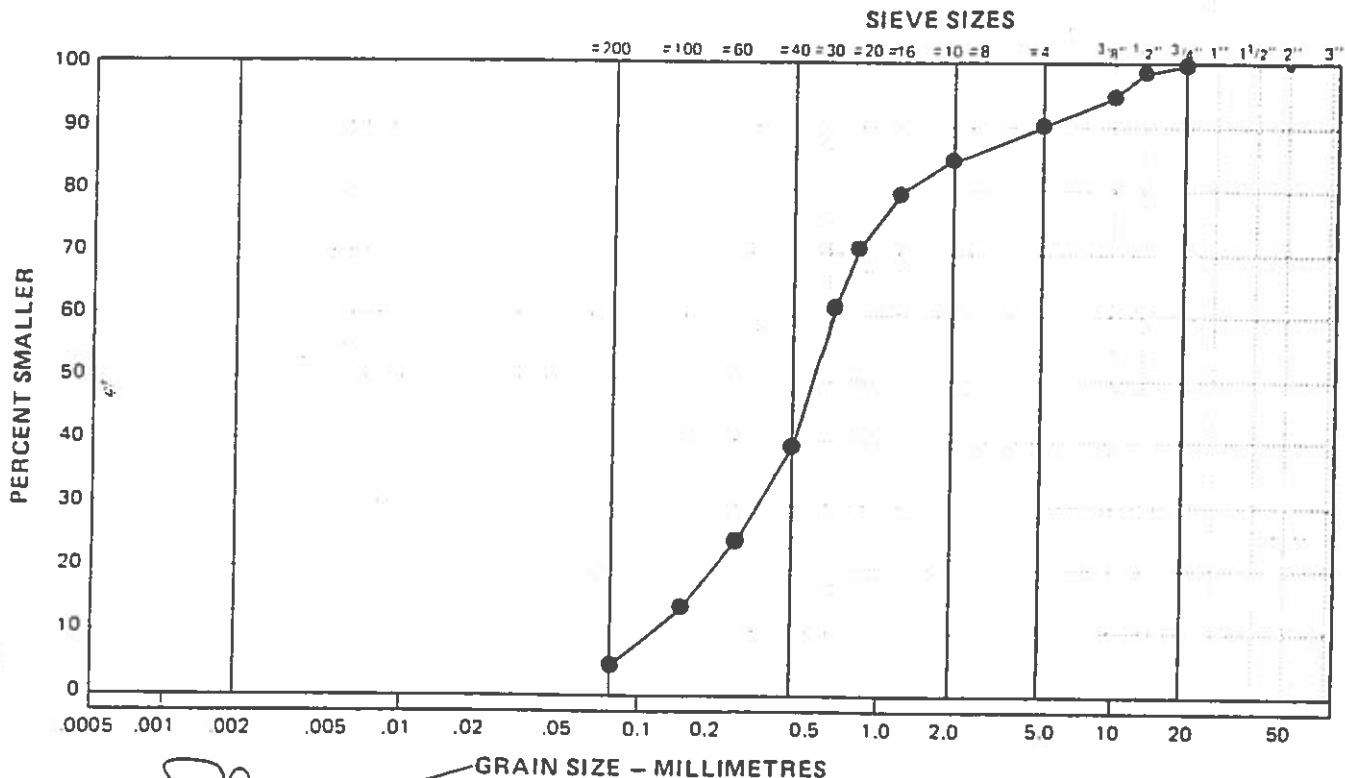
EBA Engineering Consultants Ltd.

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



W. Blawie

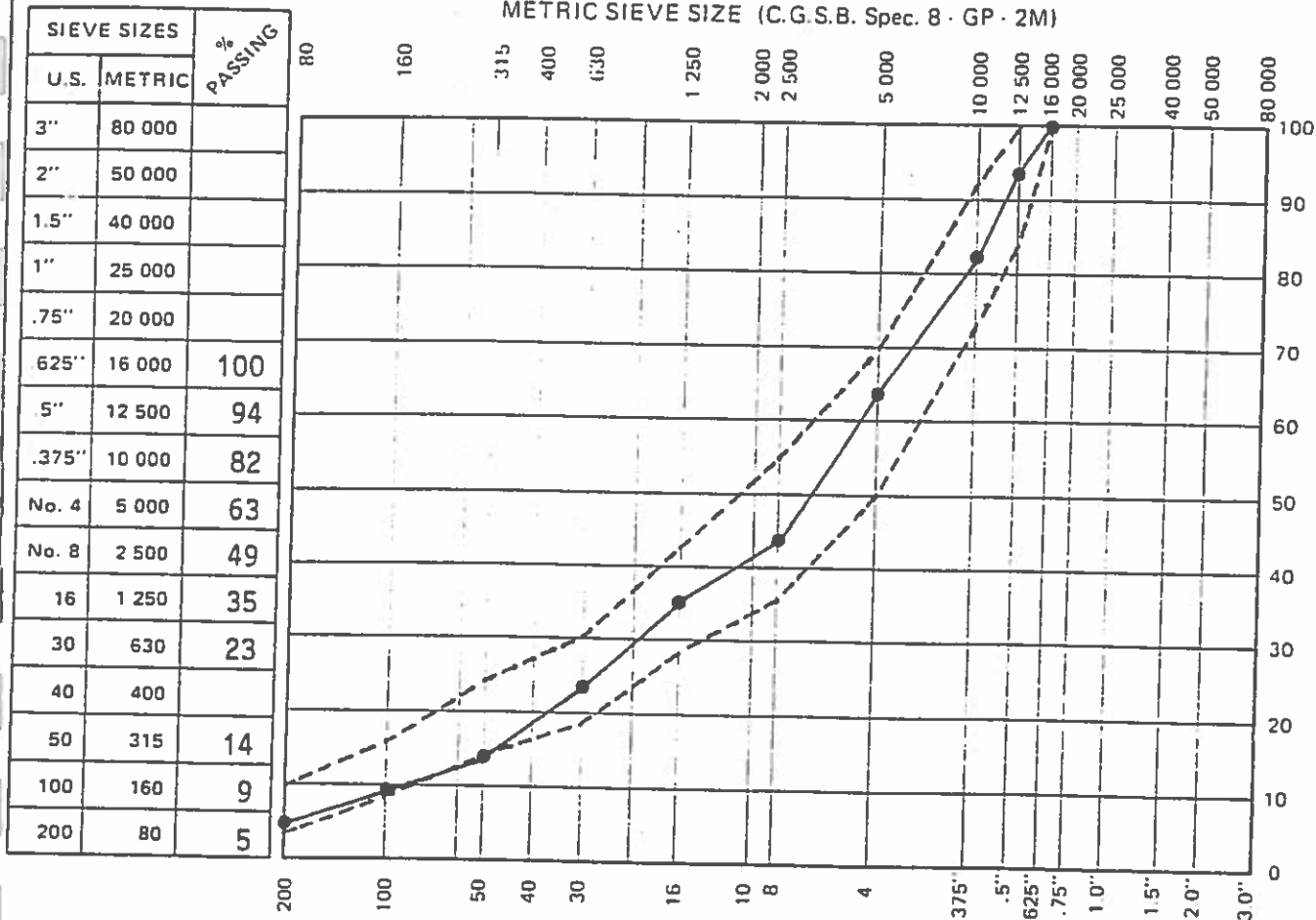


EBA Engineering Consultants Ltd.

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 ☐
 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 52 sieves completed during crushing and asphalt testing

Reviewed By: Mr. Rand

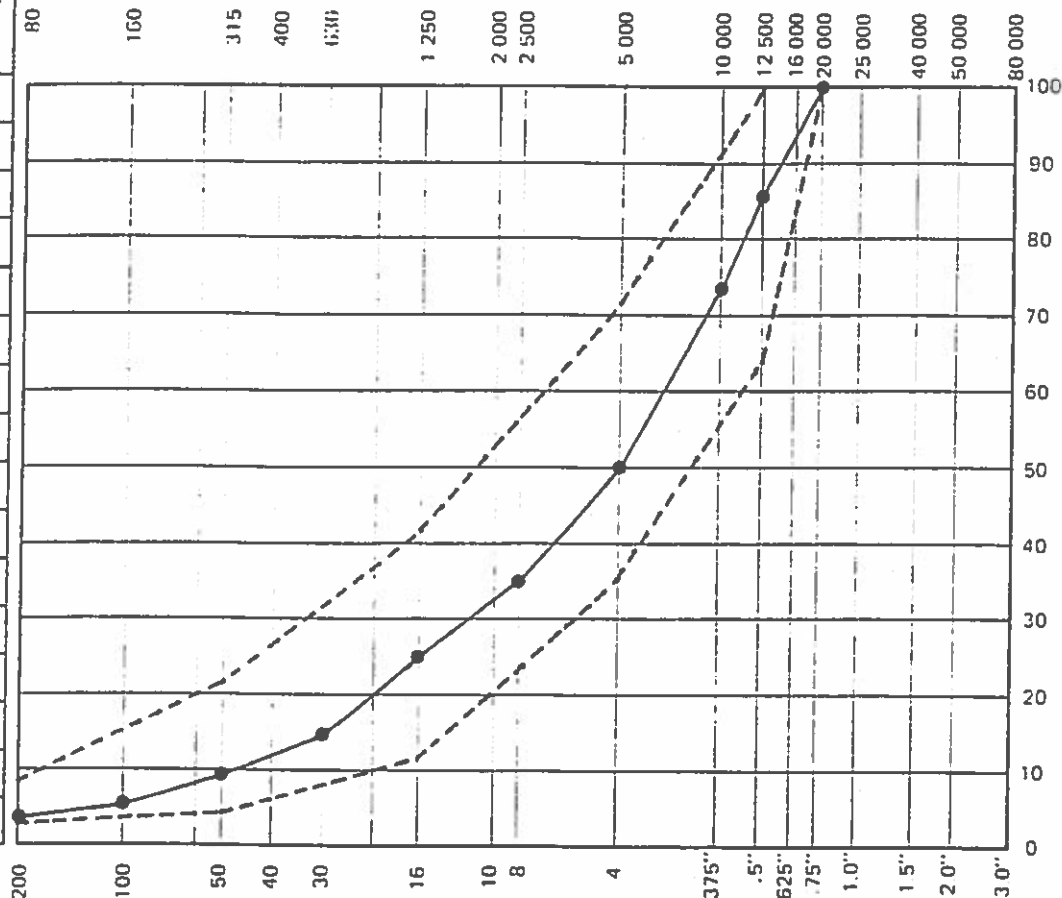
EBA Engineering Consultants Ltd.

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: _____ %

SIEVE SIZES		% PASSING
U.S.	METRIC	
3"	80 000	
2"	50 000	
1.5"	40 000	
1"	25 000	
.75"	20 000	100
.625"	16 000	
.5"	12 500	86
.375"	10 000	73
No. 4	5 000	50
No. 8	2 500	36
16	1 250	25
30	630	15
40	400	
50	315	9
100	160	6
200	80	4

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 13 sieves completed during crushing and placement.

Reviewed By: *M. Plant*

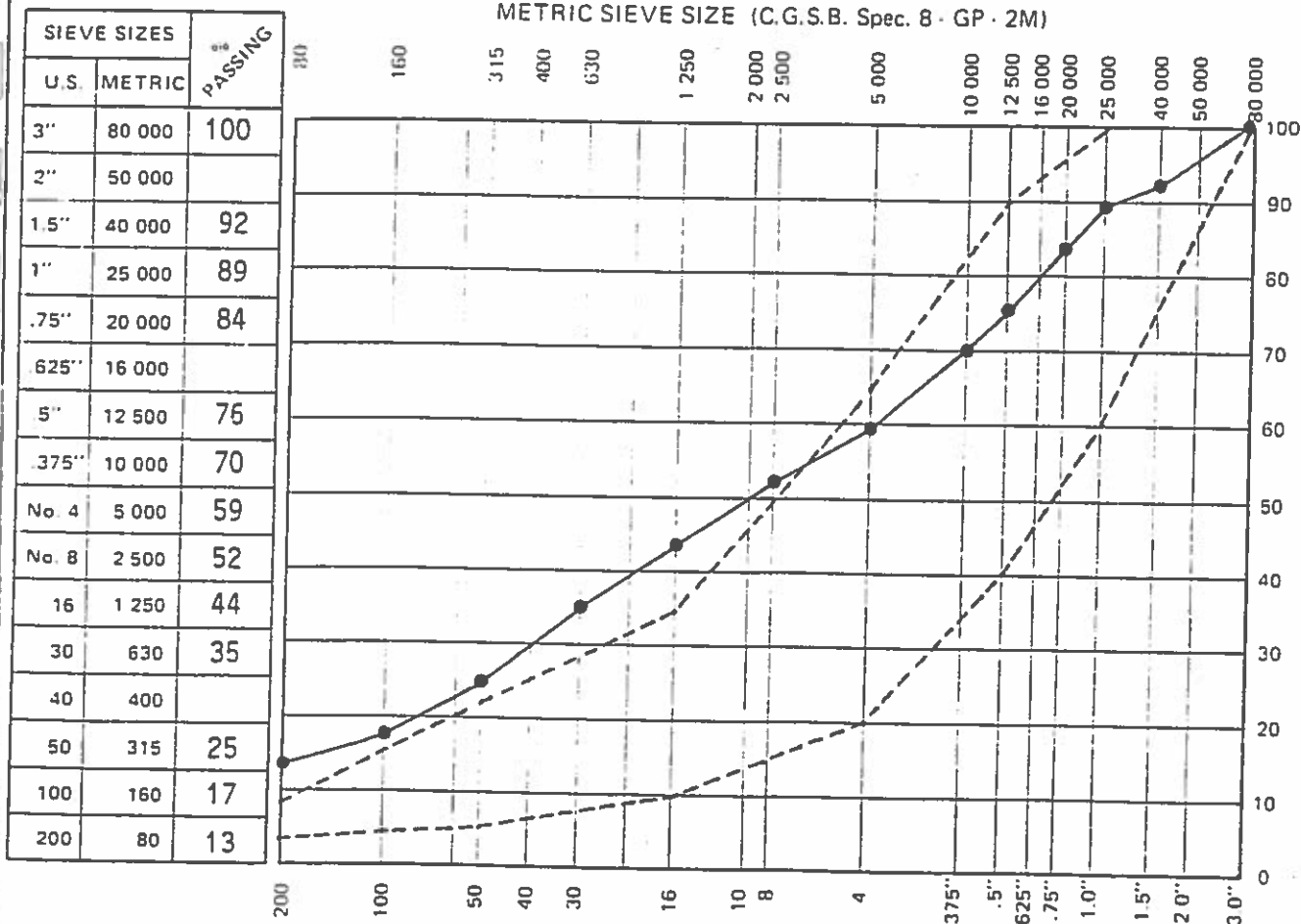


EBA Engineering Consultants Ltd.

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 _____
 _____ 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 6 sieves completed during placement.

Reviewed By: ms. Pland

EBA Engineering Consultants Ltd.

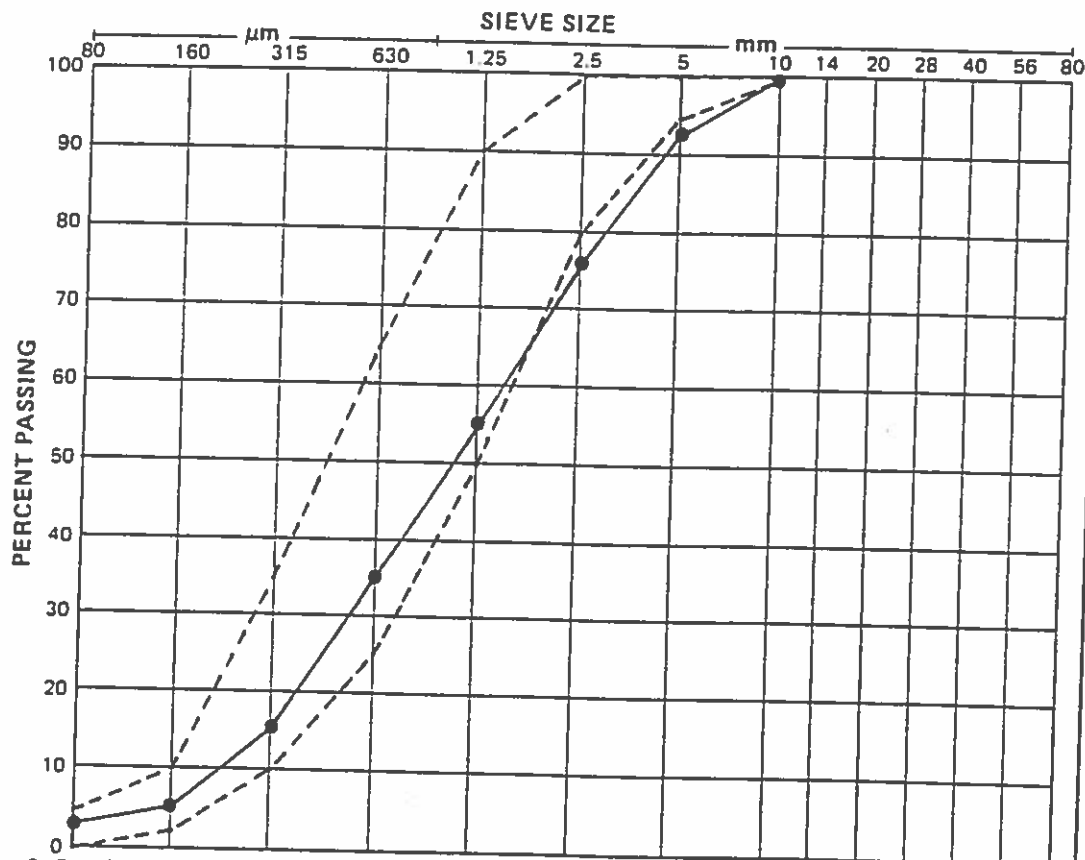


Standard A 283
Concrete Testing
Laboratory Type II
with all Options

AGGREGATE ANALYSIS REPORT (CONCRETE AGGREGATE)

Project: Whitehorse Granular Inventory Sample Number: _____
Address: Source: Annie Lake Trucking for Territorial Contracting-Ear Lake Sample Description: Fine Concrete Aggregate
10 mm to 80 μ m
Project Number: 0201-10539 Natural Moisture Content: _____ %
Date Tested: _____ By: _____ Organic Content: _____ %
Client: Government of Yukon Plate Number: _____
Attention: Ms Ann MacDonald Bulk Relative Density: _____
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 μ m	35
315 μ m	16
160 μ m	5
80 μ m	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: [Signature]

Data presented hereon is for the sole use of the stipulated client. EBA is not responsible for any use made of this data by any other party without the written consent of EBA.

The testing services reported herein have been performed by an EBA technician to recognized industry standards, unless otherwise noted. No other warranty is made. These data do not constitute or represent any interpretation or opinion of specification compliance or test results. Should engineering interpretation be required, the client should consult with EBA.

EBA Engineering Consultants Ltd.

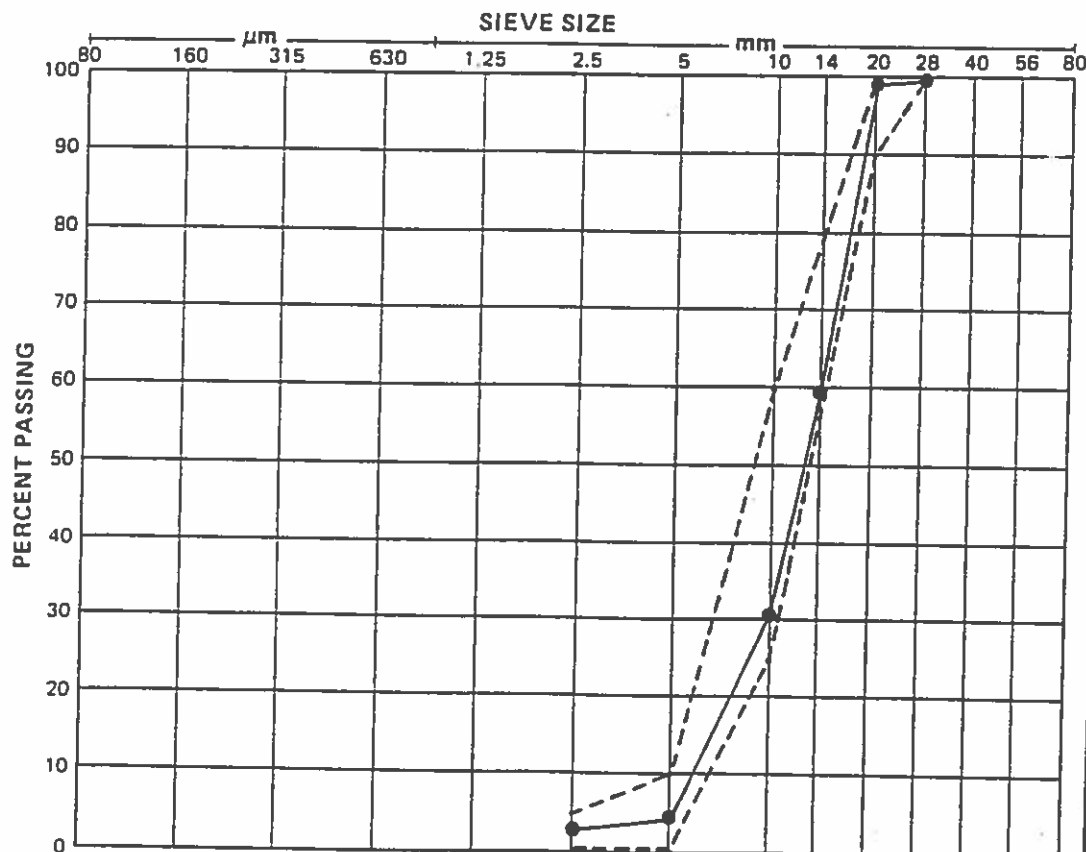


Standard A 283
Concrete Testing
Laboratory Type II
with all Options

AGGREGATE ANALYSIS REPORT (CONCRETE AGGREGATE)

Project: Whitehorse Granular Inventory Sample Number: _____
Address: Source: 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: _____ %
Client: Government of Yukon Plate Number: _____
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 μ m	
315 μ m	
160 μ m	
80 μ m	
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: Mr. Hant

Data presented herein is for the sole use of the stipulated client. EBA is not responsible for the use or misuse of this data for any other purpose, with or without the consent of EBA.

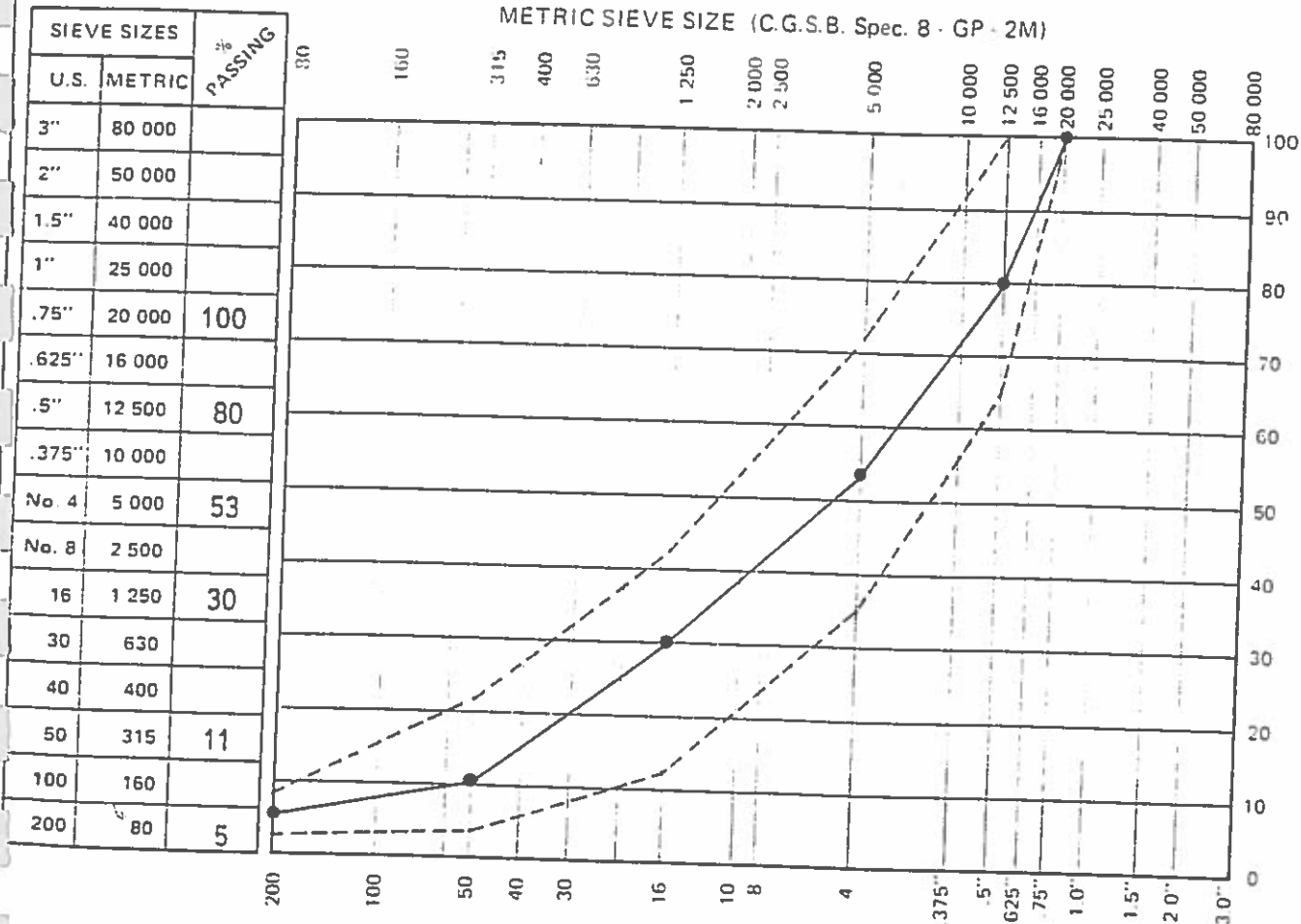
The testing services reported herein have been performed by an EBA technician to recognized industry standards, unless otherwise noted. No other warranty is made. These data do not include or represent any interpretation or opinion of specification compliance or material suitability. Should engineering interpretation be required, contact EBA.

EBA Engineering Consultants Ltd.

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)



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

Remarks: Average of 11 sieves performed during crushing control.

Reviewed By: *M. Hand*



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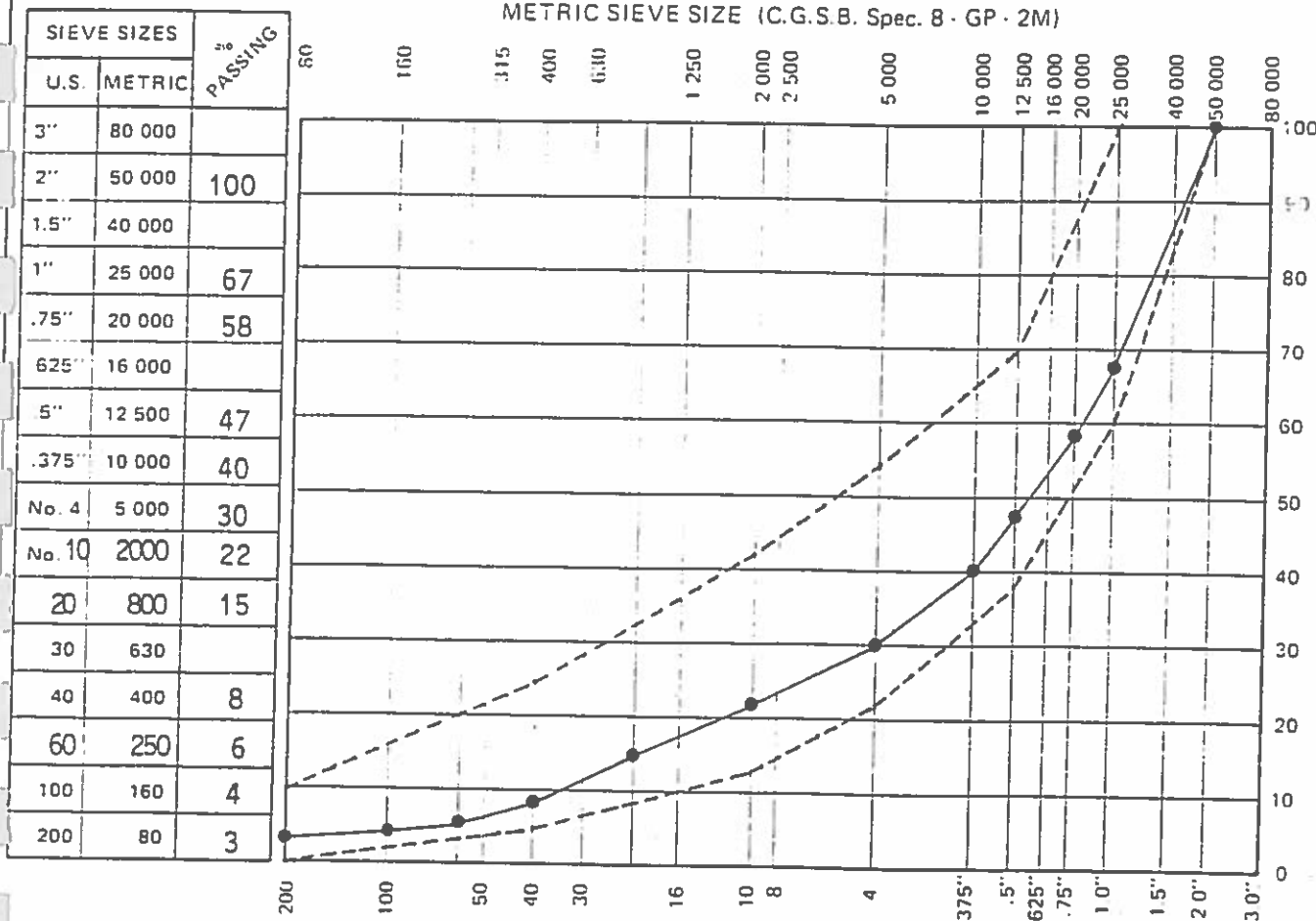
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EBA Engineering Consultants Ltd.

AGGREGATE ANALYSIS REPORT

Project: Whitehorse Granular Inventory Sample Number: _____
 Address: Source: Skookum Construction Sample Description: 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 _____
 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)

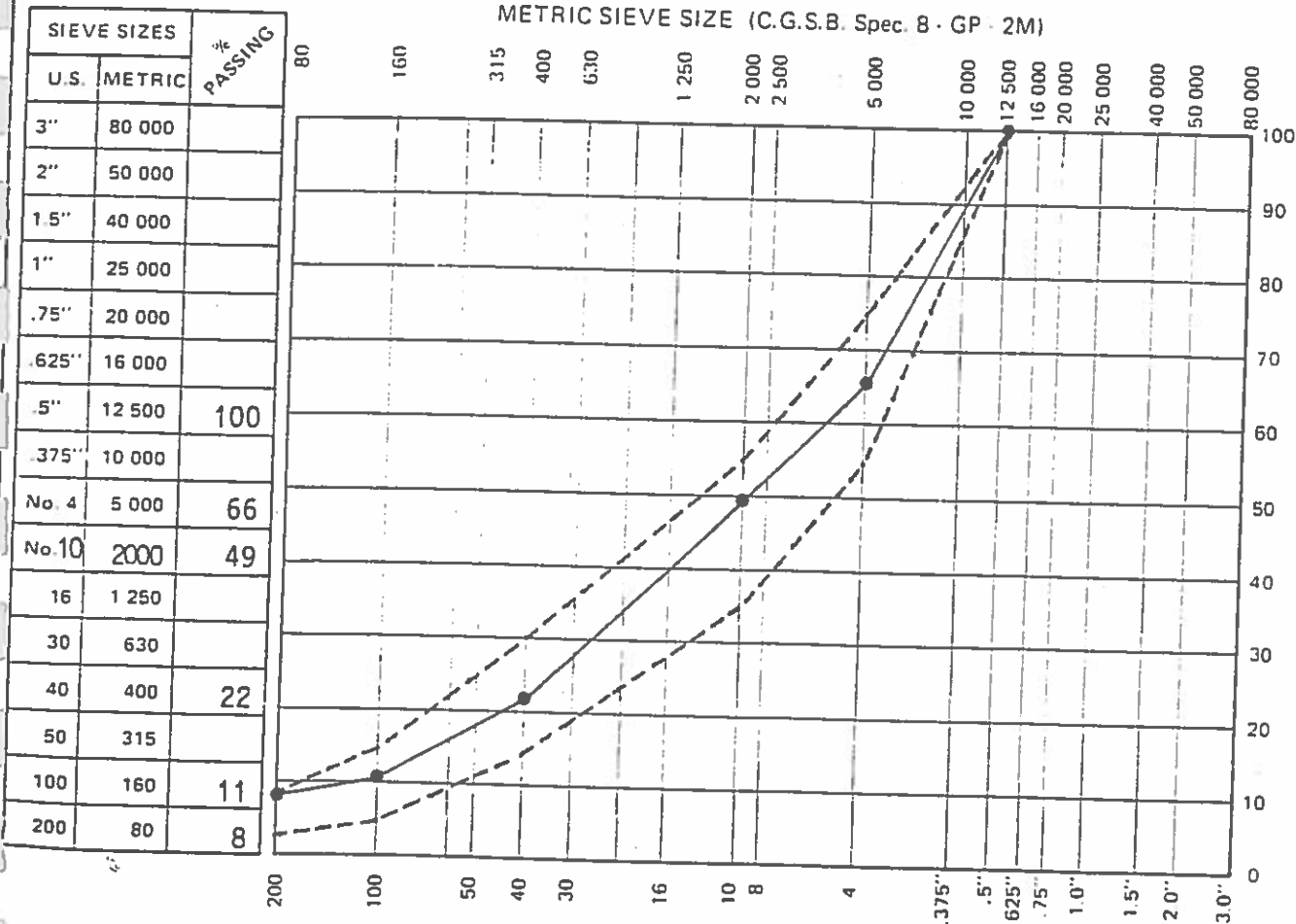
Remarks: Average of 16 sieves completed during crushing control

Reviewed By: [Signature]

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: _____ Organic Impurities _____
 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: *[Signature]*

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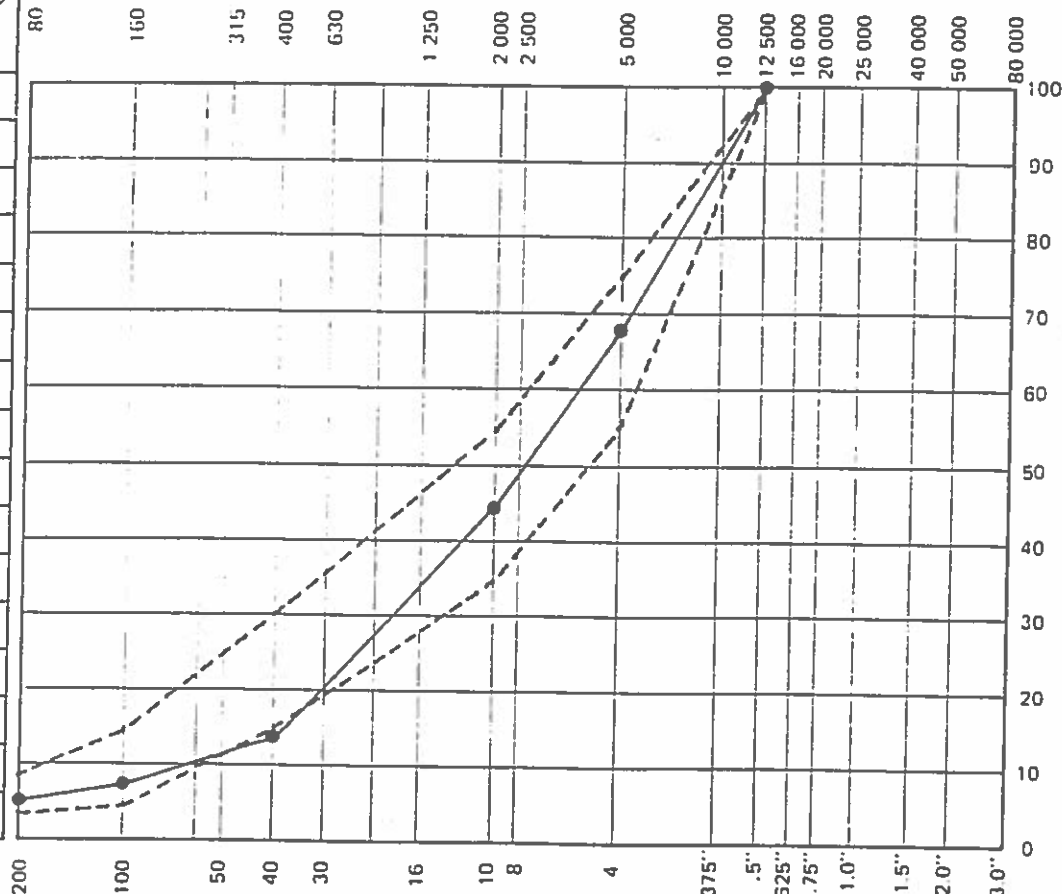
EBA Engineering Consultants Ltd.

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)

SIEVE SIZES		% PASSING
U.S.	METRIC	
3"	80 000	
2"	50 000	
1.5"	40 000	
1"	25 000	
.75"	20 000	
.625"	16 000	
.5"	12 500	100
.375"	10 000	
No. 4	5 000	67
No.	2000	45
16	1 250	
30	630	
40	400	13
50	315	
100	160	7
200	80	5



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

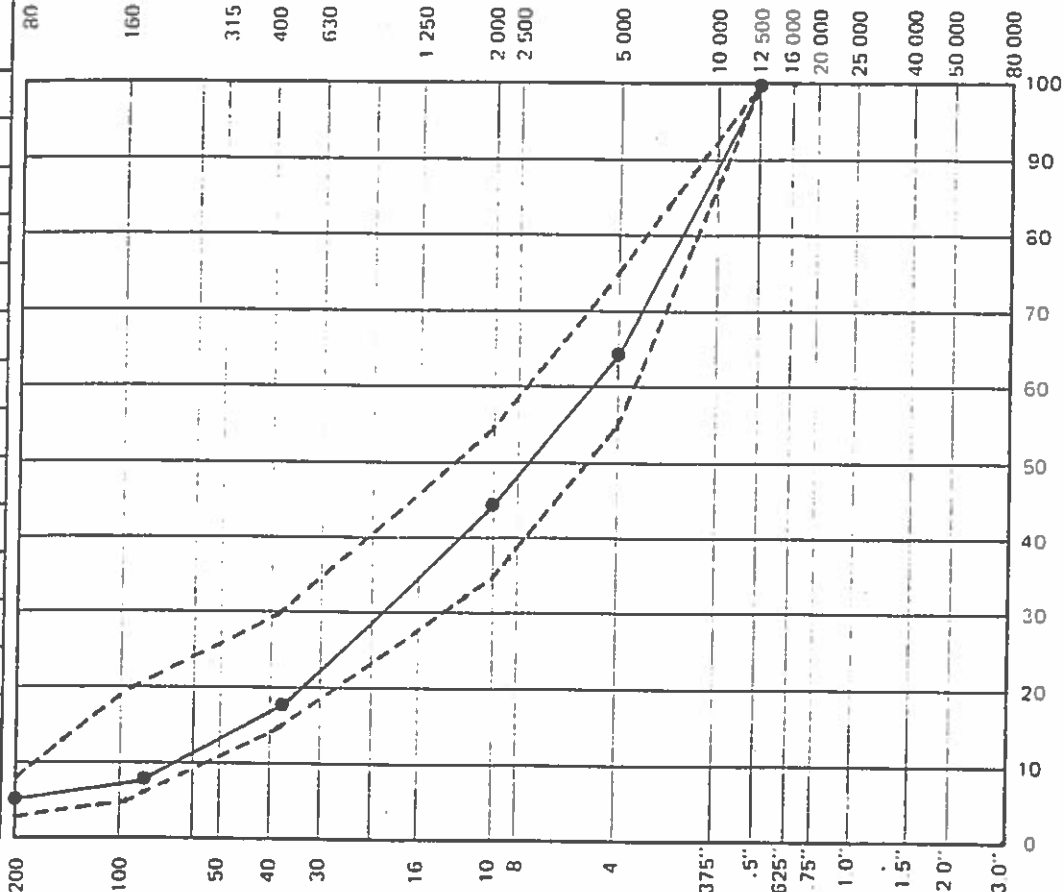
Reviewed By: M. Hand

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: _____ %

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

SIEVE SIZES		% PASSING
U.S.	METRIC	
3"	80 000	
2"	50 000	
1.5"	40 000	
1"	25 000	
.75"	20 000	
.625"	16 000	
.5"	12 500	100
.375"	10 000	
No. 4	5 000	64
No. 10	2 000	45
16	1 250	
30	630	
40	425	18
50	315	
100	180	7
200	80	5



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

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

Reviewed By: m. Kanda

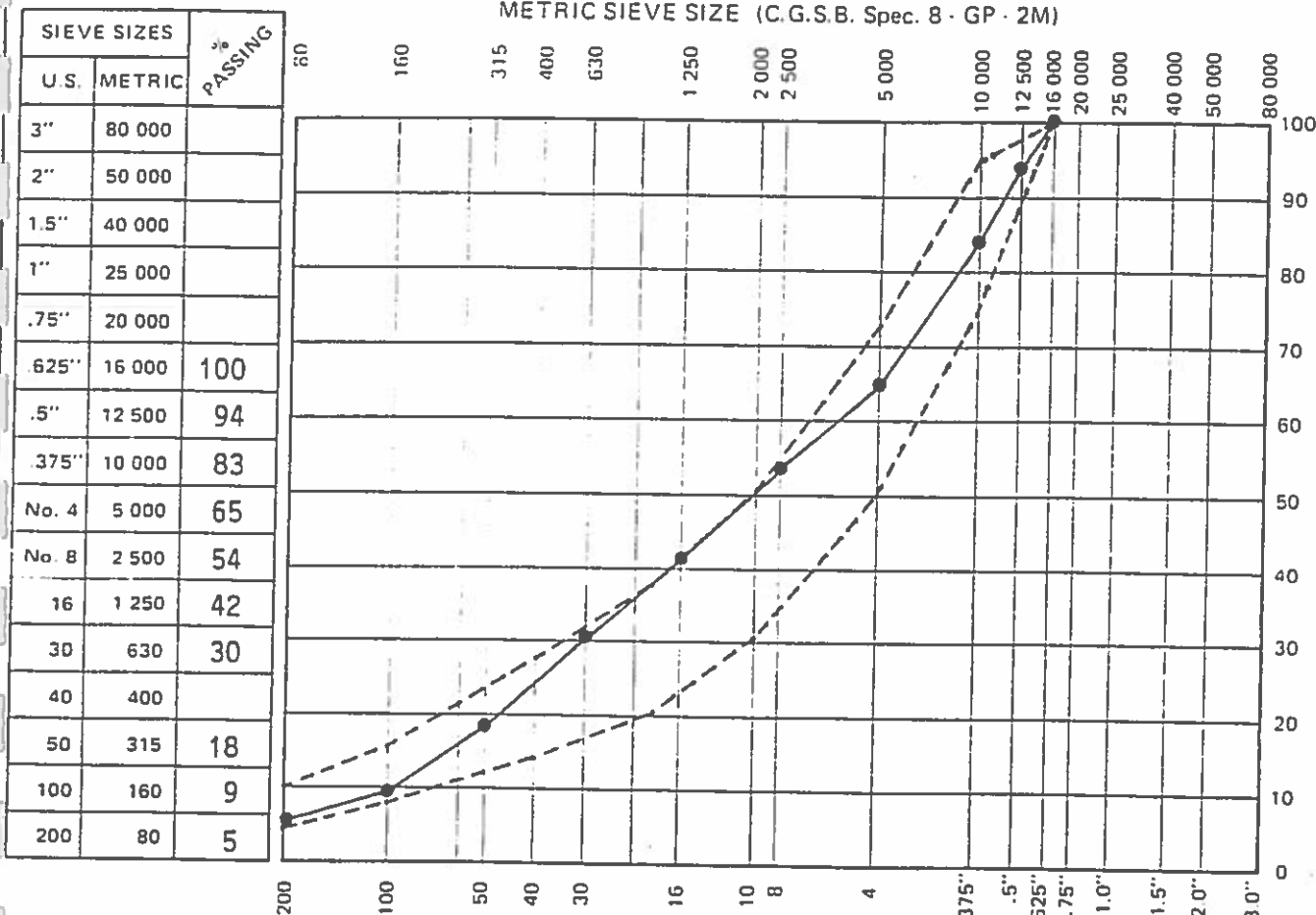


EBA Engineering Consultants Ltd.

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. Kaur*

EBA Engineering Consultants Ltd.

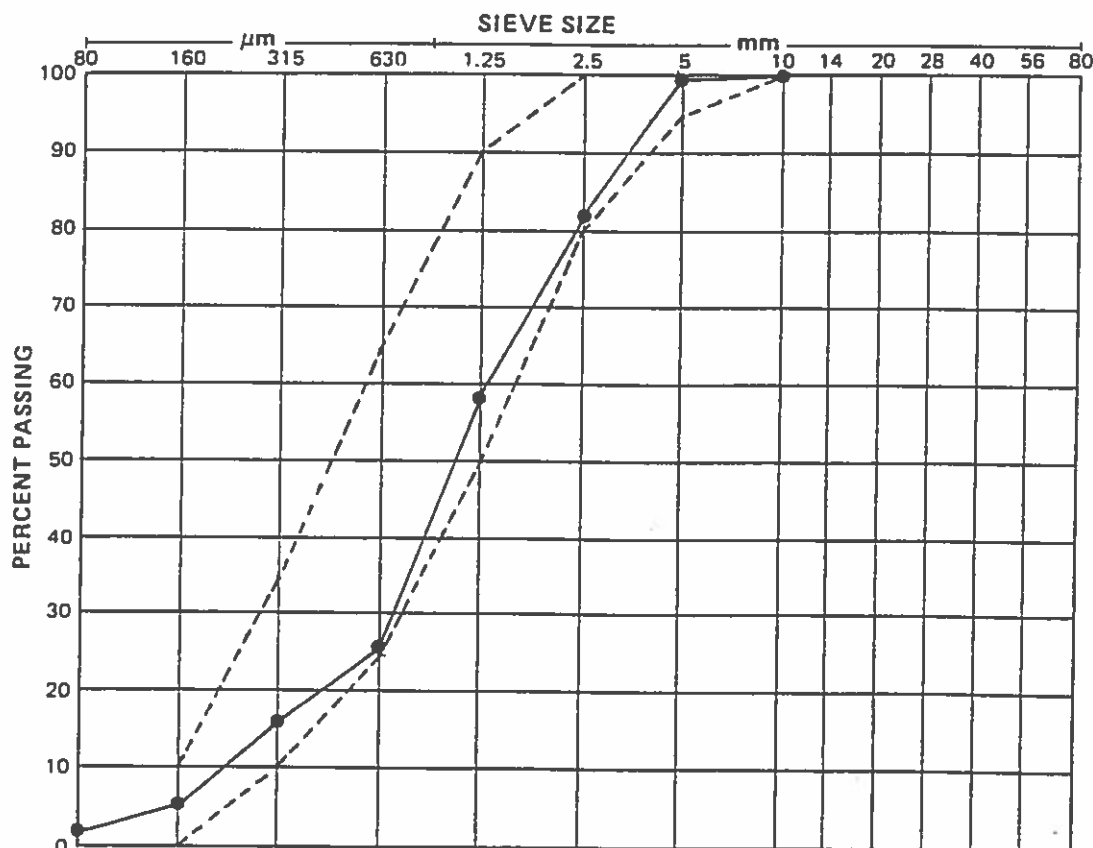


Standard A 283
Concrete Testing
Laboratory Type II
with all Options

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: _____ %
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	
14 mm	
10 mm	100
5 mm	99
2.5 mm	82
1.25 mm	58
630 μ m	26
315 μ m	16
160 μ m	6
80 μ m	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. H. H.*

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
Alaska Highway at South Access

Sample Description: Coarse Concrete Aggregate
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

Attention: Ms Ann MacDonald

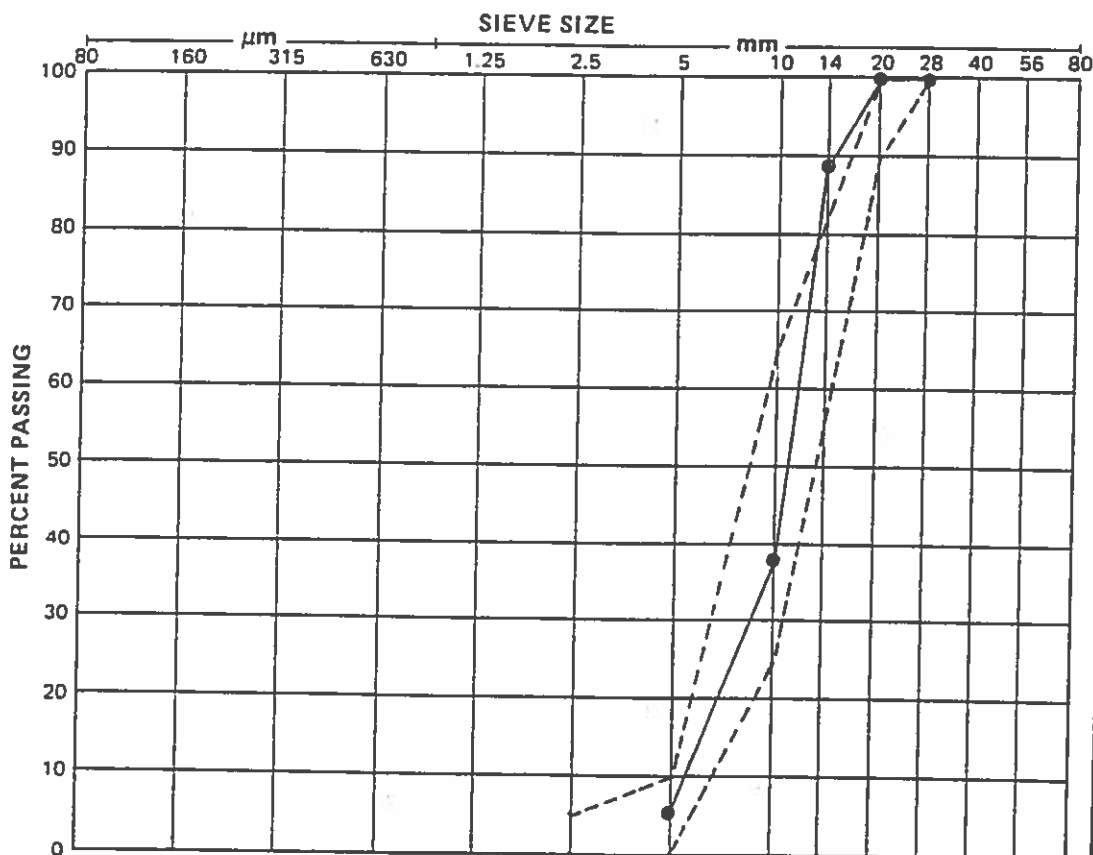
Bulk Relative Density: _____

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.

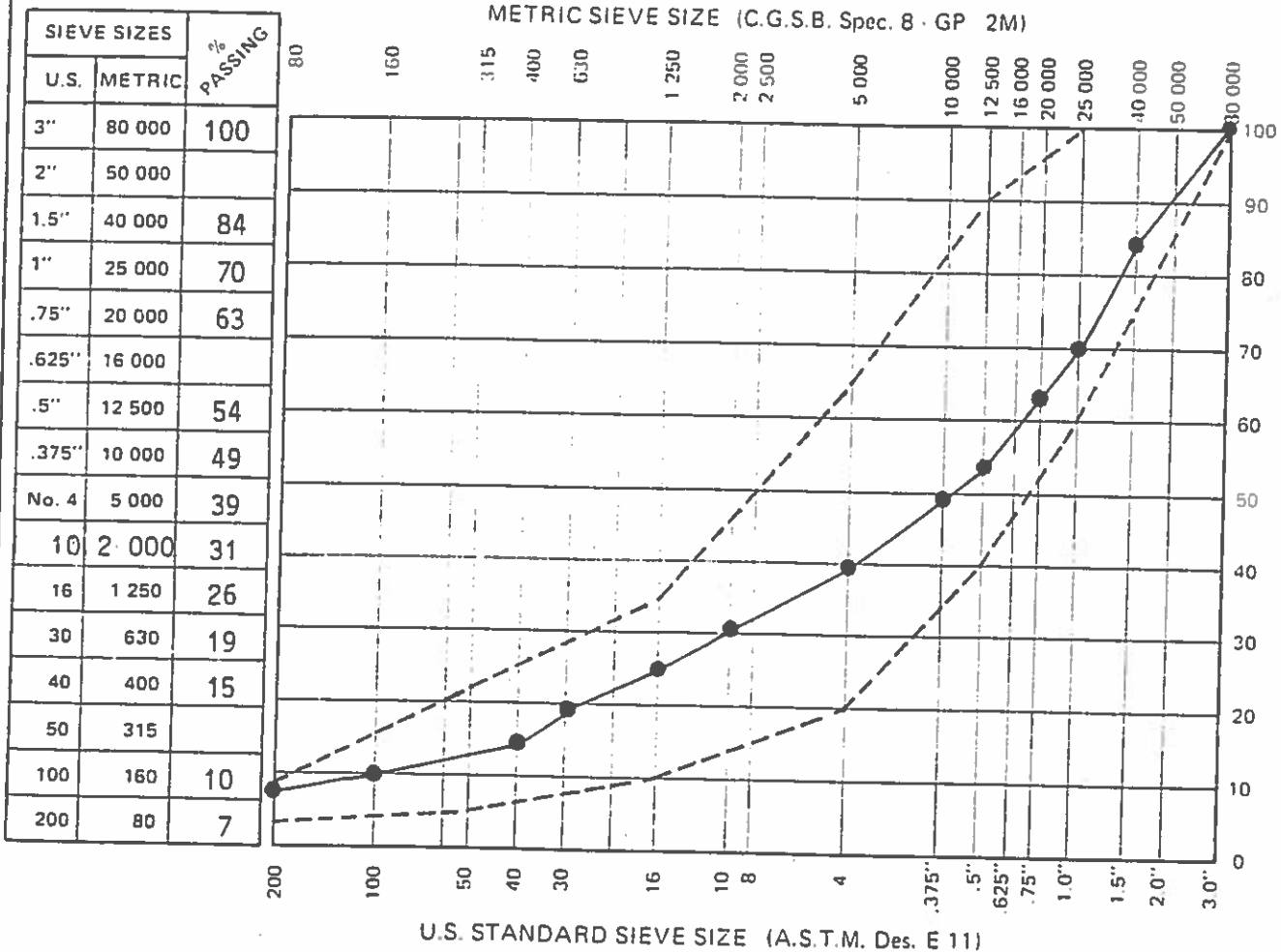
NOTE: A testing service only has been provided in reporting these test data. Engineering interpretation or evaluation of such test data will be provided upon request.

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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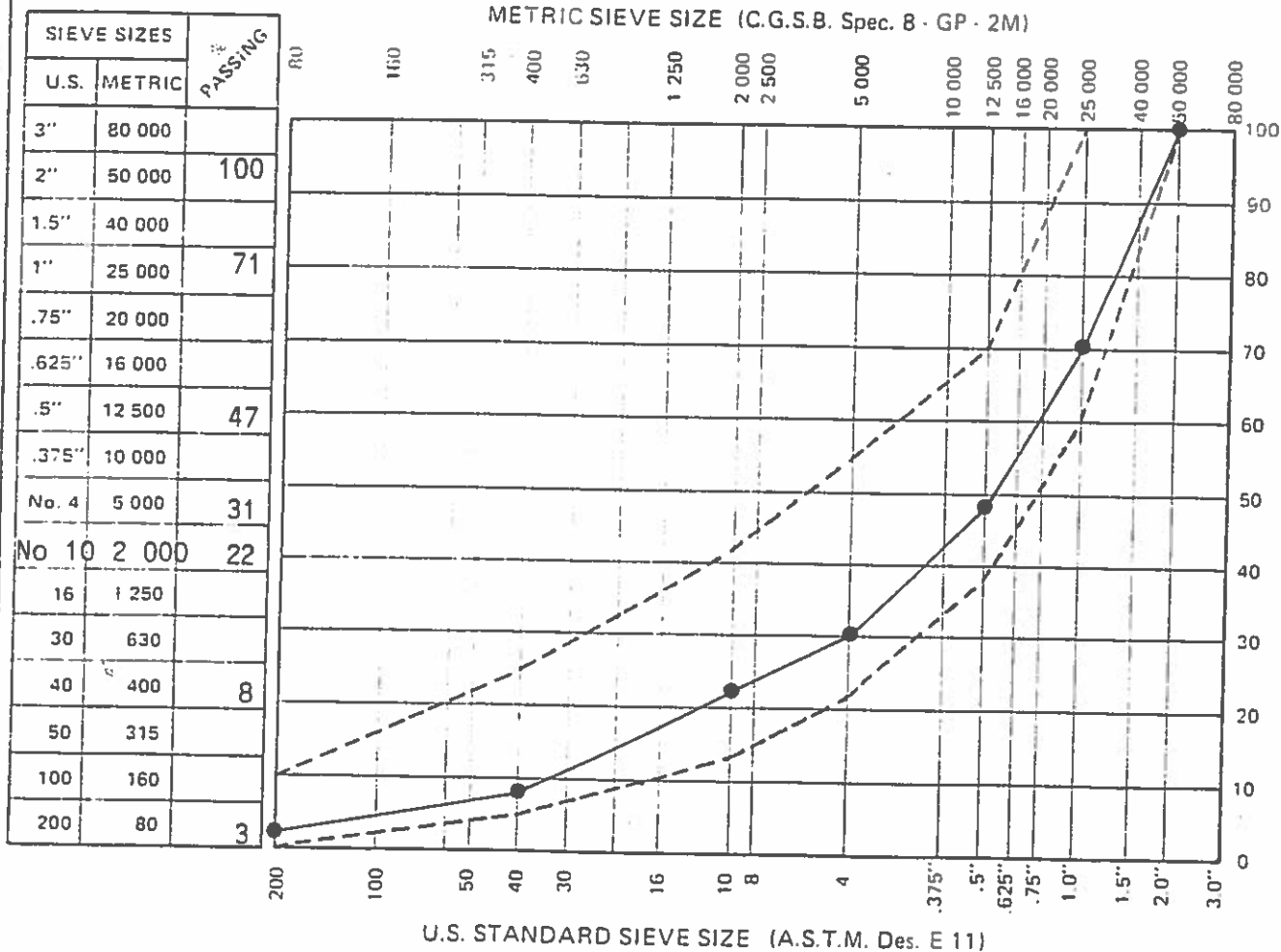
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EBA Engineering Consultants Ltd.

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: _____
 Bulk Relative Density: _____
 Attention: Ms. Ann MacDonald Bulk Relative Density (SSD): _____
 Apparent Relative Density: _____
 Absorption: _____ %



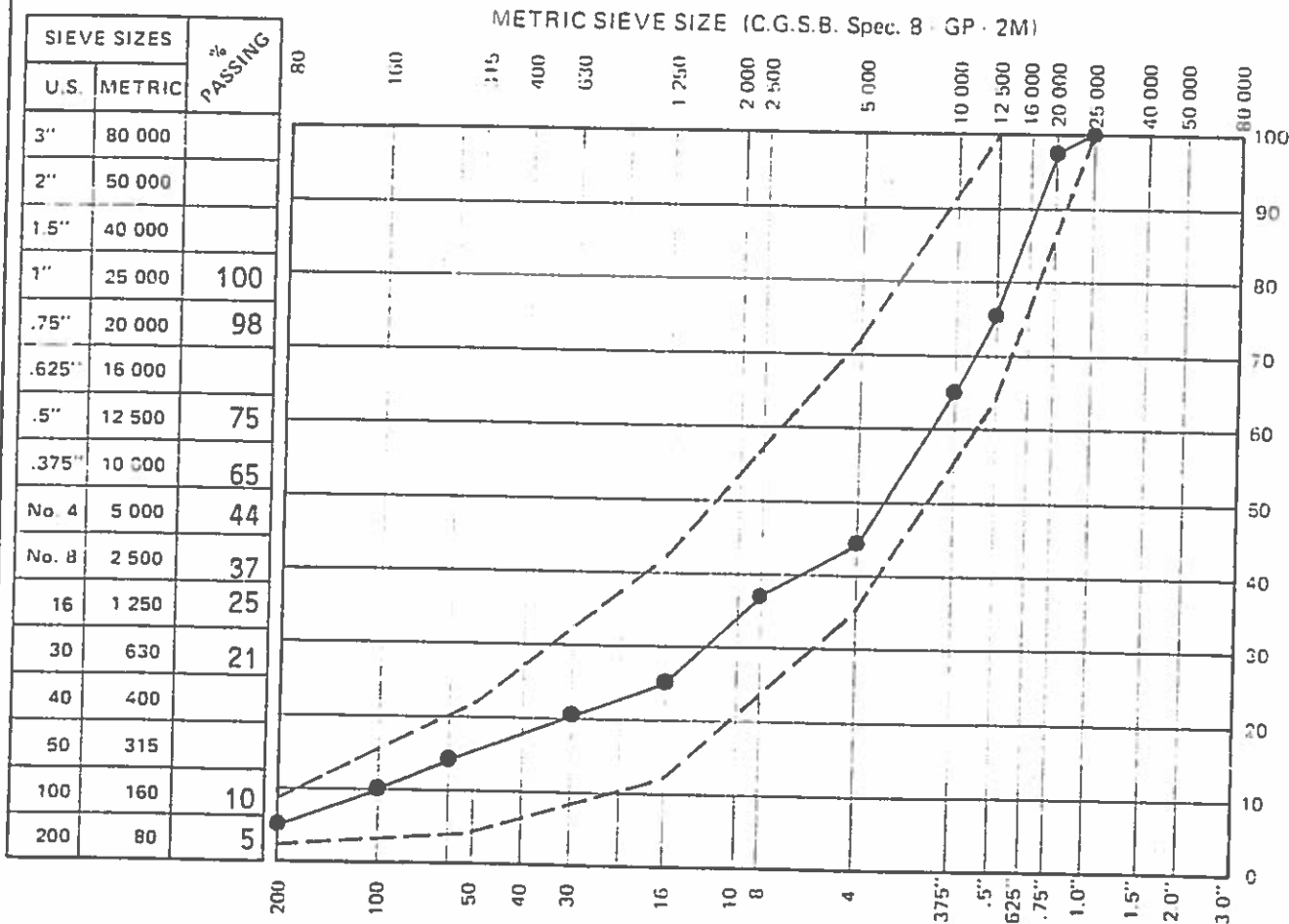
Remarks: Average of 18 sieves completed during crushing in 1989

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: _____
 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 #

Reviewed By: [Signature]

