# Quesnel Trough

# Airborne Gamma Ray Spectrometry

# data provided by:

Geological Survey of Canada
Mineral Resources Division
Airborne Geophysics Section
601 Booth St.
Ottawa, Ontario, K1A 0E8

## 1. Introduction

The files in the IMAGES directory are 8-bit [0,255] images created from the floating-point gridded data. All of the images except 2 have been created by merging the data from 3 surveys in the area. The 2 VLF images represent data from a single survey, since the VLF data from the other 2 surveys was of poor quality.

## 2. The Files

The primary AGRS data set consists of 7 variables:

| Filename | Variable Name | Units | Symbol |
|---|---|---|---|
| POT.* | Potassium | % | K |
| URA.* | equivalent Uranium | ppm | eU |
| THO.* | equivalent Thorium | ppm | eTh |
| EXP.* | Exposure | | uR/h |
| RUT.* | equivalent Uranium/equivalent Thorium | | eU/eTh |
| RUK.* | equivalent Uranium/Potassium | x 10^-4 | eU/K |
| RTK.* | equivalent Thorium/Potassium | x 10^-4 | eTh/K |
| TER.* | ternary radioelement composite image | | |

*uR/h=micro-Roentgen/h

In addition, there are 3 files representing the auxiliary survey data:

| Filename | Variable Name | Units |
|---|---|---|
| MTF.* | Magnetic Total Field | nT |
| VLT.* | VLF Total Field (line station) | % |
| VOT.* | VLF Total Field (ortho station) | % |

## 3. File Content

A. Each of the *.BIL files is an 8-bit image file which was created from the original floating-point grid files by linearly quantizing the data into 89 levels corresponding to the 89 colours preferred

by the Airborne Geophysics Section. The actual data ranges of the original grids and the range used for quantization are shown below:

| File | Original Grid Minimum | Original Grid Maximum | Linear Quantization Minimum | Linear Quantization Maximum |
|---|---|---|---|---|
| POT | 0 | 4.58 | 0 | 3 |
| URA | 0 | 4.83 | 0 | 2.5 |
| THO | 0 | 15.85 | 0 | 8 |
| EXP | 0 | 13.7 | 0 | 8 |
| RUT | 0 | 2.6 | 0 | 1.3 |
| RUK | 0 | 6.11 | 0 | 2.4 |
| RTK | 0 | 7.18 | 0 | 5 |
| MTF | 56788 | 61689 | 57000 | 60000 |
| VLT | 64.21 | 134.24 | 75 | 125 |
| VOT | 67.18 | 136.37 | 75 | 125 |

The maximum value used for quantizing the data is lower than the actual maximum value, to avoid biasing the image by the high 'stray' values. The top colour represents values from the 'quantization maximum' value to the 'original maximum' value and does not include more than 0.2% of the data.

As described below, when SurView displays these images, the grid legend will display the actual range of the data because the GRX files contain a transform to scale the [0,89] levels to [0,quantization maximum].

B. The TER.* file set is a 3-band ternary image file, created from the original K, eU & eTh data sets. It is not a linear combination of those 3 variables - a special data-sensitive algorithm has been applied to ensure that the resulting ternary image contains useful information. Details of the algorithm are outlined in:

Broome, J., Carson, J.M., Grant, J.A. and Ford, K.L.
1987: A modified ternary radioelement mapping technique and
it's application to the south coast of Newfoundland;
GSC Paper 87-14.

## 4. Data File Formats

For each image, there are several files:

**.BIL** 8-bit binary 'Band-Interleaved by Line' files in row format, from top to bottom

**.HDR** ASCII 'header' file which describes the internal structure of the .BIL file

**.BLW** ASCII 'world' file describing the co-ordinate reference system for the .BIL file

**.CLR** ASCII 'colour' file containing the (red,green,blue) definitions of the colour table that is suitable for viewing the .BIL file. Although there is 1 .CLR file for each .BIL file (except TER.BIL) they are all identical (containing 89 colours).

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**.GRX** ASCII 'header' file (combining the information contained in the .HDR & .BLW file)

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.**TIF** binary 'TIFF' file (Tagged Image File Format)

**.TFW** ASCII 'world' file describing the co-ordinate reference system for the .TIF file (this is identical to the .BLW file)

The 3-band Ternary TER.BIL file has a .HDR, .BLW & .GRX file, but has no .CLR file (not required) or equivalent .TIF or .TFW file.

## 5. Applications

The .BIL files may be viewed with a variety of applications:

1. ArcView (ESRI)
   In ArcView, select the .BIL file. ArcView will look for the corresponding .HDR & .BLW file to describe the .BIL file. It also looks for the corresponding .CLR file and will display the image using that table (that is why there are many identical .CLR files). If ArcView can not find the .CLR file, it will display the image using grey tones.

2. Arc/Info (ESRI)
   Use the Arc 'imagegrid' command to import the .BIL file.

3. Other GIS
   The .BIL file is a simple 8-bit raster file. Most GIS systems are capable of reading and displaying these files. Consult your GIS documentation for further information on how to import and/or display these files. In most cases, it will simply be a matter of describing the .BIL to the GIS using the information contained in the .HDR & .BLW files, as well as the colour information contained in the .CLR file.

4. SurView
   This CD-ROM contains the GSC SurView application for Microsoft Windows 3.x. SurView can display the .BIL image file using the description of it contained in the .GRX file (which contains most of the information from the .HDR & .BLW files). To display a .BIL file, simply select the corresponding .GRX file.

   The .GRX file contains the name of the RAD89.RGB file which is located in the ...\SURVIEW directory (along with many other .RGB files). The RAD89.RGB file contains exactly the same 89 colour definitions as in any of the .CLR files, but in SurView format.

   The .GRX file contains a transform which can restore the original range of the data before it was converted to the 8-bit .BIL file. You will see the true range of the image (i.e. ppm, %, nT) when you select the Options | Grid Legend menu item to display the grid legend.

The TER.BIL file may be viewed by:

1. ArcView (ESRI)
   In ArcView, select the .BIL file. ArcView will look for the corresponding .HDR & .BLW file to describe the .BIL file. It will not look for any .CLR file because it recognizes the file as a multi-band .BIL file. However, rather than displaying a 'composite' view of the .BIL file, it displays the first band of the file as a grey tone image. Select 'properties' and change the 'Legend' from 'single-band' to 'composite'. The image will be re-displayed as a 3-band RGB colour image.

2. Arc/Info (ESRI)
   Use the Arc 'imagegrid' command to import each band separately from the .BIL file. Use the ArcPlot 'gridcomposite' command to display the image.

3. SurView
   As for the single-band .BIL files, select the TER.GRX file to display the TER.BIL image. No .RGB colour file is required to display the image.

The .TIF files may also be viewed with a variety of applications:

1. ArcView (ESRI)
   In select the .TIF file. ArcView will look for the corresponding .HDR & .BLW file to describe the .BIL file. It does not require any .CLR file, because the colour table is stored in the header of the .TIF file.

2. You may also view the .TIF file with many graphics packages on several different operating systems (CorelDraw, Graphics Workshop, PaintShop Pro etc).

## Further information:

The original digital data is available directly from the Airborne Geophysics Section. It is available in two forms:

(a) point (line) data for all variables
SurView can display and print flight lines, profile maps & stacked profiles.

(b) floating-point grids
These grid files contain the full range of data values, whereas the .BIL files provided here are low-resolution, linearly-quantized 8-bit representations of the data.

To order digital data, contact:

Ray Hetu
Data Analyst
Geological Survey of Canada
Airborne Geophysics Section
601 Booth St., Room 598

Voice: (613) 992-4279
FAX: (613) 996-3726
e-mail: rhetu@gsc.emr.ca

For technical information regarding the airborne surveys or interpretation/application of the geophysical data, contact:

Rob Shives
Geological Survey of Canada
Airborne Geophysics Section
601 Booth St., Room 593

Voice: (613) 996-3695
FAX: (613) 996-3726
e-mail: rshives@gsc.emr.ca

For further information on SurView, contact the author:

John A. Grant
Systems Analyst
Geological Survey of Canada
Airborne Geophysics Section
601 Booth St., Room 591

Voice: (613) 992-1082
FAX: (613) 996-3726
e-mail: jagrant@gsc.emr.ca

The version of SurView provided on this CD-ROM is a runtime copy only, with many of the tools disabled. The full version of SurView is available directly from:

Geological Survey of Canada Bookstore
601 Booth St.
Ottawa, Ontario, K1A 0E8

Voice: (613) 995-4342
FAX: (613) 943-0646
e-mail: gsc_bookstore@gsc.emr.ca

# Quesnel Trough

# Regional Magnetic and Gravity

# data provided by:

Geological Survey of Canada
Geophysical Data Centre
1 Observatory Crescent
Ottawa, Ontario, K1A 0Y3

## 1. Introduction

The files in this directory are 8-bit [0,255] images created from the floating-point gridded data. All of the images have been created by merging the data from several surveys in the area.

## 2. The Files

| Filename | Description | Units |
|---|---|---|
| QT_BGA | Bouger gravity | milligals |
| QT_TFM | Residual total field magnetics | nano Teslas |

## 3. File Content

Each of the *.BIL files is an 8-bit image file which was created from the original floating-point grid files. The Bouger gravity grid file was quantized into 26 levels, while the residual total field magnetic grid file was quantized into 39 levels. These levels correspond to the number of colours preferred by the Geophysical Data Centre for display.

To order digital data, contact:
Geophysical Data Centre
Geological Survey of Canada

1 Observatory Crescent
Ottawa, Ontario,  K1A 0Y3

Voice:  (613) 995-5326
FAX:    (613) 992-2787
e-mail: infogdc@agg.emr.ca
WWW: http://gdcinfo.agg.emr.ca

# User's Guide

## Quesnel Trough:
## A Digital Suite of Geoscience Information

**GSC Open File: 3273**
**BCGSB Open File: 1996-19**

Compiled by Stephen P. Williams

Written by Stephen P. Williams and Bert Struik

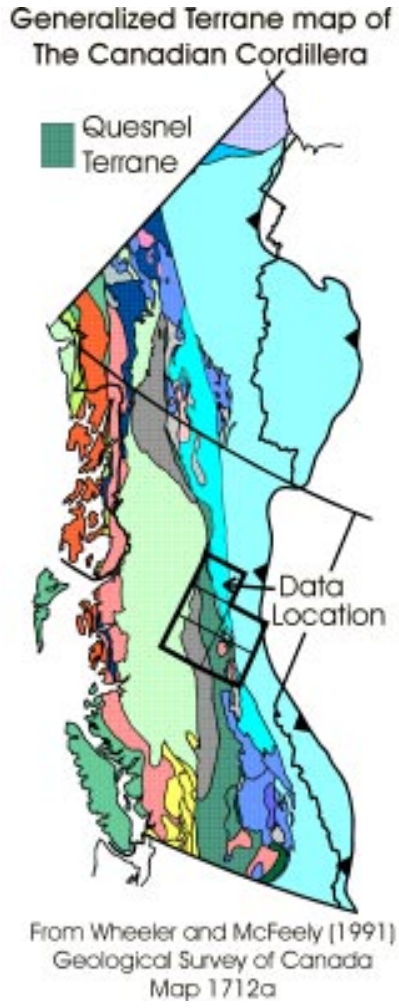
July, 1996

# Table of Contents

# 1.0) MDA Quesnel Trough Project: an Overview

The Quesnel Trough project is a joint program of the Geological Survey of Canada and the British Columbia Geological Survey Branch. It was funded mainly through the Canada/British Columbia Mineral Development Agreement (1991-1995), a subsidiary of the Canada-British Columbia Economic and Regional Development Agreement. It was designed to provide new geoscience information in a region in central British Columbia suspected to have economic reserves of precious and base metals in a Triassic and Jurassic island arc volcanic, plutonic and sedimentary setting (Fig. 1). That island arc has been traditionally known as the Quesnel Trough.


The Quesnel Trough is a component of the Intermontane and Omineca belts of the Canadian Cordillera in central British Columbia, and the island arc rocks are included in Quesnel Terrane (Fig. 2). The trough is flanked on the east by the Slide Mountain Terrane oceanic sequence and the Mesozoic North American continental margin (Cassiar Terrane) and to the west by the Cache Creek Terrane oceanic assemblage. Rocks of the Quesnel Trough host many mineral occurrences, several of which have been recently found and developed.




The primary economic targets of the Quesnel Trough are pluton hosted gold-copper. Younger rock suites and cross cutting structures in the region host mercury and molybdenum showings and deposits. Numerous sub-economic occurrences of silver, lead, and zinc are hosted by rocks of the Cassiar Terrane and skarn assemblages adjacent to Quesnel Terrane plutons.

The Quesnel Trough Mineral Development Agreement projects were designed primarily to enhance the geological information available. With the improved information infrastructure, it is expected that further mineral prospects would be discovered and exploited. During the project new geological information was made available and was used for exploration and land-use planning through Mineral Potential analysis. Several prospects were discovered during this project and investments were generated with their exploration.

## 2.0) Introduction to User's Guide

Today, effective geoscientific mapping and mineral exploration require an integrated approach where all available geoscience data are utilized. The recent availability of cost effective geographic information system (GIS) software and hardware capable of registering, managing, analyzing, and plotting the entire spectrum of geoscience data can greatly facilitate the process. Unfortunately, interpreters commonly lament the fact that much of the geoscience data are available only in analog form and must be digitized before it can be entered in to the GIS. In cases where the data are available in digital form, each data set must commonly be obtained from a different source, in a different format, and registered to a different projection. The net result of these problems is that in a typical GIS analysis project the interpreter spends 80% of their time loading the required data and 20% of the time analyzing them. In this release of an integrated collection of geoscience data for the Quesnel Trough area, the interpreter is freed from the laborious data loading exercise and is provided with a pre-registered collection of data sets in common interchange formats.

Some groups within the geoscience community have already embraced the use of digital data and GIS software while other groups are just developing expertise with these methods. In addition, individuals access digital data through a great variety of software applications. In order to meet the different needs of these groups, the data contained on this compact disk (CD) are configured for ease of use and are provided in a variety of common interchange formats.

In addition, a GSC developed data viewing package called SurView, is included in a run-time format on this CD. SurView is a Windows-based software application that allows those without access to GIS or CAD software the opportunity to delve into the Quesnel Trough digital data set.

This CD contains geoscience information and ideas mainly published in various forms throughout the life of the Quesnel Trough project. It also contains information from pre-existing and concurrent surveys of the GSC and BCGSB. All of the information has been linked in a common format and can be viewed, queried and extracted from this single source.

## 3.0) Software Recommendations

The Quesnel Trough digital data is designed to be accessed on a UNIX based platform with ARC/INFO (v. 7.0.3) and/or ARCVIEW. Data contained on the disk are also formatted for use on DOS and Microsoft Windows platforms, and are portable to a variety of GIS, CAD, and Desktop Publishing applications that read standard ISO-9660 files, and that accept ESRI export files (*.E00), ESRI shape files (*.SHP), AutoCad data exchange format files (*.DXF), dBaseIV database files (*.DBF), ASCII textfiles (*.TXT),

band interleaved by line image files (*.BIL) or tagged image format files (*.TIF). Refer to your own system documentation and user support groups to assist in choosing and configuring file formats appropriate to your particular application.

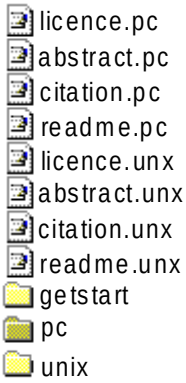
# 4.0) CD Information

This CD conforms to the ISO-9660 system-independent standard. An ISO-9660 formatted CD works identically on a PC, Macintosh or Unix workstation. The directory and file structure of the CD can be viewed as if it were a conventional hard disk. Although the file structure is system independent, the user must still deal with differences in the way different operating systems format files, in particular ASCII files. To remove this concern from the end user this CD contains data configured in both PC and Unix compatible formats.

Compact disks are a cost effective way of distributing large quantities of data but do have some limitations. Data transfer rates of CDs are comparable to hard disks but access times are much slower. The slow access time can have negative implications for applications that require concurrent querying of several files. The result is that displaying and querying thematic coverages such as geology maps can be very slow due to the program repeatedly accessing several files in succession. Display of raster and point data are less effected since they are limited by data transfer rate. The speed of access to geological coverages can be greatly improved by copying them to the hard disk and reading them from there.

# 5.0) Directory Structure

The directory structure of this CD has been designed to facilitate simple and logical access to the data. At the top level there are several files and three directories. The files are of an administrative nature. The three directories are GETSTART, PC and UNIX.




## 5.1) SEVERAL FILES

All files labeled with the extension .PC, are ASCII textfiles formatted for use on personal computers running either DOS or Windows.

abstract.pc - an overview of the Quesnel Trough MDA project
citation.pc - product name, open file number and list of contributing authors

licence.pc - end user licence agreement
readme.pc - instructions on how to install Adobe Acrobat

All files labeled with the extension .UNX, are ASCII textfiles formatted for use on computers running Unix.

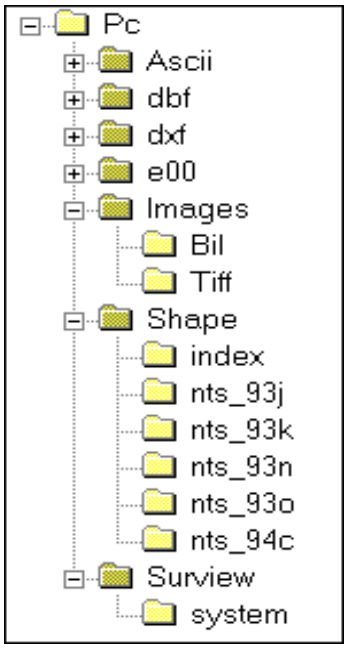
abstract.unx - an overview of the Quesnel Trough MDA project
citation.unx - product name, open file number and list of contributing authors
licence.unx - end user licence agreement
readme.unx - instructions on how to install Adobe Acrobat

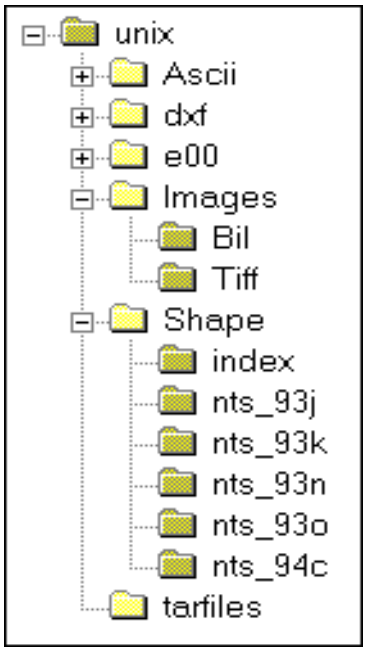
## 5.2) GETSTART

The GETSTART directory contains two sub-directories: ACROBAT and DOUMENT. The ACROBAT sub-directory contains a number of sub-directories containing the platform specific Adobe Acrobat reader software. The DOUMENT sub-directory contains the Quesnel Trough Project "readme" files in PDF format.

## 5.3) PC

The PC directory contains seven sub-directories: E00, DXF, DBF, SHAPE, ASCII, IMAGES and SURVIEW**.** With the exception of the SURVIEW directory, which contains a software application, the others contain data in a format implied by the directory name. Of the data directories, all except IMAGES, are further divided into six sub-directories: INDEX, NTS_94C, NTS_93N, NTS_93K, NTS_93O and NTS_93J. The IMAGES directory contains two sub-directories: BIL and TIFF.



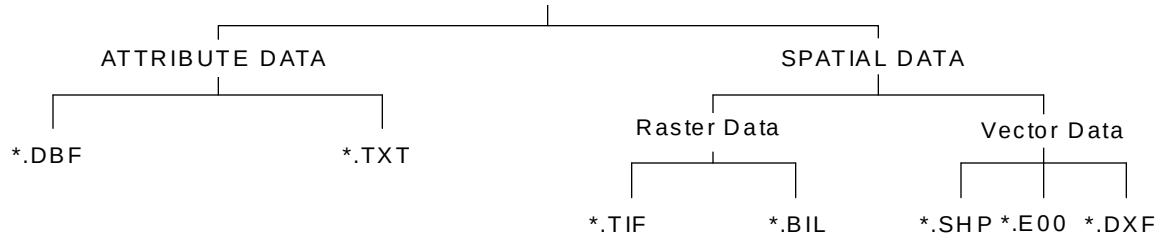
### 5.4) UNIX

The UNIX directory is set up in a similar fashion to that of the PC directory described above, with some exceptions. Not present in the UNIX directory are the sub-directories DBF and SURVIEW. A DBF directory is not present because there is no generic database file format associated with the Unix operating system. The SURVIEW directory is not present because the SurView application is PC-based. Present under the UNIX directory but not found in the PC directory is the sub-directory TARFILES.

## 6.0) Data Information

The data are provided in a number of different common interchange file formats to ensure maximum compatibility with a wide range of software applications.

The data on this CD are classified as either attribute or spatial, based on the type of information contained in the files. This distinction is not entirely appropriate in that many of the file types incorporate both spatial and attribute information. The attribute data are stored as both ASCII text files (*.TXT) and database files (*.DBF). The spatial data is further classified as either vector or raster. The vector data are stored as ESRI export files (*.E00), ESRI shape files (*.SHP) and AutoCad data exchange format files (*.DXF). The raster data are stored as band interleaved by line image files (*.BIL) or tagged image format files (*.TIF). Each of these file formats and their contents are discussed below.




### 6.1) Attribute Data

Attribute data is that which provides information about the characteristics of a particular geographic feature. It is stored as both ASCII text files (*.TXT) and database files (*.DBF).

#### 6.1.1) *.TXT

The ASCII text files contain a header section followed by a data section. The header section consists of a description of the file structure. The data section consists of information stored one record per line with fields delimited by

commas. These files can be viewed in any word processing package. In addition, they may be loaded into spreadsheet or database applications.

#### 6.1.2) *.DBF

The *.DBF files are generic PC database files. These files can be used with a variety of database and spreadsheet applications. The Unix operating system does not have a generic database format, as a result this CD does not contain a Unix equivalent to the PC files.

## 6.2) Spatial Data

Spatial data is that which provides information about the location and shape of geographic features, as well as there relationship to one another. On this CD spatial data is distributed in either vector or raster format.

### 6.2.1) Vector Data

Vector data is characterized by a coordinate-based data structure in which geographic features are represented as an ordered list of x,y coordinates.

#### 6.2.1.1) *.DXF

AutoCAD ASCII data exchange format files are widely used by CAD and GIS software to interchange line and point data. DXF files do not support topology for polygonal files, however topological information can be incorporated in DXF files as attributes tagged to points located inside polygons.

#### 6.2.1.2) *.E00

ARC/INFO ASCII interchange format files allow ARC/INFO coverages to be read by ARC/INFO and ArcView running on all platforms. The format is also supported by some other GIS packages.

#### 6.2.1.3) *.SHP (shape files)

ARC/INFO binary shape files allow ARC/INFO coverages to be imported into ARCVIEW2. The following files with the same root name as the SHP file provide additional information for display and interpretation of the SHP file. A limited capability to edit theme features exists. The format is also supported by some other GIS packages, as well as the GSC's SurView application.

*.shx

A binary index file.

*.dbf

A generic binary PC database file which contains the feature attribute information.

### 6.2.2) Raster/Image Data

Raster data is characterized by a cell-based data structure composed of rows and columns where groups of cells represent features. Image data is stored in this fashion.

#### 6.2.2.1) *.BIL

Band Interleaved by Line binary files are used to store raster data. The following files with the same root name as the BIL file provide additional information for display and interpretation of the BIL file.

*.clr

An ASCII file which contains the colour palette used when the file is displayed.

*.hdr

An ASCII file which contains information such as: the number of bands, number of rows and columns, and the number of bits/pixel.

*.stx

An ASCII file which contains statistical information about the file.

*.blw

ASCII georeferencing file for the BIL containing the UTM coordinate of the upper left corner and the pixel size in metres.

#### 6.2.2.2) *.TIF

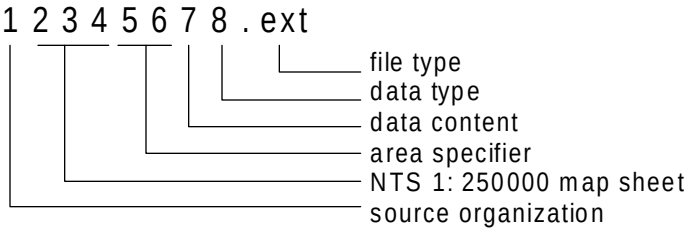
Tagged Image Format binary files are used to store raster data. The following file with the same root name as the TIF file provides additional information for display and interpretation of the TIF file.

*.tfw

An ASCII file which contains georeferencing information.

## 6.3) File Naming Convention

With the exception of the image files and those contained in the INDEX directory, all other files are named following the convention as outlined below. Files are named based on a limit of eight characters with a three character extension. For a complete listing of all files refer to the tables in section 7). Data Sets.




| Character Position | Meaning | Options |
|---|---|---|
| 1 | Source Organization | b - BCGSB<br>g - GSC<br>j - BCGSB and GSC |
| 2,3,4 | NTS 1:250000 Map Sheet | 93K, 93N, 93O, 93J and 94C |
| 5,6 | Area Specifier | SW - South West Corner<br>SE - South East Corner<br>NW - North West Corner<br>NE - North East Corner<br>__ - Entire 1:250000 Map Sheet<br>01 to 16 - 1:50000 Map Sheet |
| 7 | Data Content | b - Bedrock Geology<br>s - Surficial Geology<br>p - Paleontology<br>i - Geochemistry Till 2 micron ICP<br>j - Geochemistry Till 63 micron ICP<br>k - Geochemistry Till 63 micron INAA<br>l - Biochemistry Pine Bark ICP<br>m - Biochemistry Pine Bark INAA<br>r - References |
| 8* | Data Type | p - Polygon data file<br>l - Line data file<br>i - Point data file<br>t - Tic data file |
| ext | File Type | txt - ASCII textfile<br>dxf - AutoCad data exchange file<br>dbf - dBASEIV database file<br>e00 - ESRI export file<br>shp - ESRI shape file<br>bil - band interleaved image file<br>tif - tagged image file |

* the eighth character field defining data type is only used with the shape files, because these files are broken down into there base components (lines, points and polygons).

Example:

b93n__b.dxf

This name indicates that the data was provided by the BCGSB, that it contains bedrock geological information, that it covers NTS maps sheet 93N and that it is in AutoCad data exchange format.

g93k__i.e00

This name indicates that the data was provided by the GSC, that it contains till geochemistry results from the 2 micron size range that was analyzed by ICP and that it is in ESRI ASCII export format.

## 6.4) Database Structures

The nature of the attribute databases associated with the spatial information varies some what from data layer to data layer. However, general guidelines for the structure of attribute tables associated with polygon, line and point information are indicated below.

Polygon Files (Bedrock and Surficial geology)

```
ITEM NAME WIDTH OUTPUT TYPE DESCRIPTION
UNIT       10    10     C   Map unit
....                        Data items will vary
SYMBOL_NO   4     4     I   Arc/Info shade number
S_ORGAN     6     6     C   Source organization
S_AUTHOR   56    56     C   Source author
S_RELEASE  24    24     C   Source release
DC_ORGAN    4     4     C   Digital compilation organization
DC_AUTHOR  14    14     C   Digital compilation author
DC_RELEASE 44    44     C   Digital compilation release
DC_EDIT    11    11     C   Digital compilation last edited
DC_SCALE   10    10     C   Digital compilation scale
```

Line Files (Bedrock, Surficial, Streams, Roads, Lakes and Grids)

```
ITEM NAME WIDTH OUTPUT TYPE DESCRIPTION
L_TYPE      9     9     C   Line type
L_DESCR1   17    17     C   Line descriptor (primary)
L_DESCR2   17    17     C   Line descriptor (secondary)
L_DESCR3   12    12     C   Line descriptor (tertiary)
SYMBOL_NO   4     4     I   Arc/Info line number
S_ORGAN     4     4     C   Source organization
S_AUTHOR   17    17     C   Source author
S_RELEASE  19    19     C   Source release
DC_ORGAN    4     4     C   Digital compilation organization
```

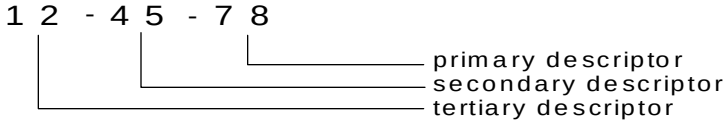
```
DC_AUTHOR  16    16     C   Digital compilation author
DC_RELEASE 44    44     C   Digital compilation release
DC_EDIT    11    11     C   Digital compilation last edited
DC_SCALE   10    10     C   Digital compilation scale
```

Point Files (Geochemistry and Paleontology)

```
ITEM NAME WIDTH OUTPUT TYPE DESCRIPTION
STAT_NO    14    14     C   Station number
UTM_EAST    8     8     I   UTM easting
UTM_NORTH   8     8     I   UTM northing
SMPL_YEAR   4     4     I   Sample year
....                       Data items will vary
SYMBOL_NO   4     4     I   Arc/Info symbol number
SMPL_MAT    5     5     C   Sample material
SIZE_FRAC  10    10     C   Size fraction
ANAL_ORG   45    45     C   Analytical organization
ANAL_MTD   25    25     C   Analytical method
S_ORGAN     6     6     C   Source organization
S_AUTHOR   31    31     C   Source author
S_RELEASE  19    19     C   Source release
DC_ORGAN    6     6     C   Digital compilation organization
DC_AUTHOR  16    16     C   Digital compilation author
DC_RELEASE 44    44     C   Digital compilation release
DC_EDIT    11    11     C   Digital compilation last edited
DC_SCALE   10    10     C   Digital compilation scale
```

## 6.5) Line Coding Convention

All line features are coded using the following convention. A single eight character field is used.




| Character Position | Meaning | Options |
|---|---|---|
| 1,2 | Primary Descriptor (l_descr1) | 10 - contact<br>20 - fault<br>30 - fold<br>50 - roads<br>60 - hydrology<br>70 - gis closure<br>80 - limit of mapping<br>90 - neatline |

| | | |
|---|---|---|
| 4,5 | Secondary Descriptor (l_descr2) | 00- none<br>01- quaternary cover<br>02- bedrock<br><br>10- anticline axis<br>11- anticline axis plunging<br>12- anticline axis plunging overturned<br>13- anticline axis upright overturned<br><br>20- syncline axis<br>21- syncline axis plunging<br>22- syncline axis plunging overturned<br>23- syncline axis upright overturned<br><br>30- normal<br>31- thrust<br>32- unknown<br>33- right lateral<br>34- left lateral<br><br>40- streams<br>41- lakes<br><br>50- 1:250,000 grid line<br>51- 1:50,000 grid line<br>52- utm grid line<br><br>60- major highway - paved<br>61- other highways - paved<br>62- other road - gravel or dirt |
| 7,8 | Tertiary Descriptor (l_descr3) | 00- none<br>10- defined<br>20- approximate<br>30- assumed |

Example:

20-31-20

The above descriptor denotes a line representing a thrust fault whose position is know with the level of confidence of approximate.

### 6.6) Projection Parameters

All data are currently registered using a zone 10 Universal Transverse Mercator (UTM) projection, North American Datum (NAD) 27 and Clarke 1866 spheroid.

## 7.0) Data sets

The following data sets are included on the CD:

1. Bedrock geology maps

| Name | Area | Scale | Source | File |
|---|---|---|---|---|
| Fort Fraser | 93K | 1: 250000 | BCGSB | b93k__b |
| Manson River | 93N | 1: 250000 | BCGSB | b93n__b |
| Mesilinka River | 94C | 1: 250000 | BCGSB | b94c__b |
| Fort Fraser | 93K | 1: 380160 | GSC | g93k__b |
| Manson River | 93N | 1: 380160 | GSC | g93n__b |
| Pine Pass | 93O/SW | 1: 250000 | GSC | g930swb |
| McLeod Lake | 93J | 1: 250000 | GSC | g93j__b |
| Aiken Lake | parts of 94C/5,6,12 | 1: 50000 | BCGSB | b94c05b |
| Uslika Lake | parts of 94C/3,4 | 1: 50000 | BCGSB | b94c03b |

2. Surficial geology maps

| Name | Area | Scale | Source | File |
|---|---|---|---|---|
| Tezzeron Lake | 93K/NE | 1: 100000 | GSC | g93knes |
| Chuchi Lake | 93N/SE | 1: 100000 | GSC | g93nses |
| McLeod Lake | 93J | 1: 250000 | GSC | g93j__s |
| Fort Fraser* | 93K | 1: 250000 | BCGSB | b93k__s |
| Manson River* | 93N | 1: 250000 | BCGSB | b93n__s |
| Mesilinka River* | 94C | 1: 250000 | BCGSB | b94c__s |
| Fort Fraser* | 93K | 1: 380160 | GSC | g93k__s |
| Manson River* | 93N | 1: 380160 | GSC | g93n__s |
| Pine Pass* | 93O/SW | 1: 250000 | GSC | g930sws |
| Aiken Lake* | parts of 94C/5,6,12 | 1: 50000 | BCGSB | b94c05b |
| Uslika Lake* | parts of 94C/3,4 | 1: 50000 | BCGSB | b94c03b |

* These files are not in depth surficial maps, but rather maps denoting bedrock or overburden.

3. Geochemistry

| Name | Area | Material | Analysis | Source | File |
|---|---|---|---|---|---|
| Fort Fraser | 93K | till 2 micron | ICP-AES | GSC | g93k__i |
| Fort Fraser | 93K | till 63 micron | ICP-AES | GSC | g93k__j |
| Fort Fraser | 93K | till 63 micron | INAA | GSC | g93k__k |
| Manson River | 93N | till 2 micron | ICP-AES | GSC | g93n__i |
| Manson River | 93N | till 63 micron | ICP-AES | GSC | g93n__j |
| Manson River | 93N | till 63 micron | INAA | GSC | g93n__k |
| Mt. Milligan* | 93N/01, 93O/04 | till 63 micron | ICP-AES | GSC/BCGSB | j93no1j or j93o04j |
| Mt. Milligan* | 93N/01, 93O/04 | till 63 micron | INAA | GSC/BCGSB | j93no1k or j93o04k |
| Mt. Milligan* | 93N/01, 93O/04 | pine bark | ICP-AES | GSC/BCGSB | j93no1l or j93o04l |
| Mt. Milligan* | 93N/01, 93O/04 | pine bark | INAA | GSC/BCGSB | j93no1m or j93o04m |

* files are the same ie: j93n01j and j93o04j are the same.

4. Geophysical data

| Name | Area | Type | Source | Format | File |
|---|---|---|---|---|---|
| Mt. Milligan | 93N/01,93O/04 | Potassium | GSC | bil and tif | pot |
| Mt. Milligan | 93N/01,93O/04 | equivalent Uranium | GSC | bil and tif | ura |
| Mt. Milligan | 93N/01,93O/04 | equivalent Thorium | GSC | bil and tif | tho |
| Mt. Milligan | 93N/01,93O/04 | Exposure | GSC | bil and tif | exp |
| Mt. Milligan | 93N/01,93O/04 | equivalent Uranium / equivalent Thorium | GSC | bil and tif | rut |
| Mt. Milligan | 93N/01,93O/04 | equivalent Uranium / Potassium | GSC | bil and tif | ruk |
| Mt. Milligan | 93N/01,93O/04 | equivalent Thorium / Potassium | GSC | bil and tif | rtk |
| Mt. Milligan | 93N/01,93O/04 | ternary radioelement composite image | GSC | bil only | ter |
| Mt. Milligan | 93N/01,93O/04 | Magnetic Total Field | GSC | bil and tif | mtf |
| Mt. Milligan | 93N/01,93O/04 | VLF Total Field (line station) | GSC | bil and tif | vlt |
| Mt. Milligan | 93N/01,93O/04 | VLF Total Field (orhto station) | GSC | bil and tif | vot |

| | | | | | |
|---|---|---|---|---|---|
| Quesnel Trough | 93K, 93N, 94C, 93O, 93J | Magnetic Total Field | GSC | bil and tif | qt_tfm |
| Quesnel Trough | 93K, 93N, 94C, 93O, 93J | Bouger Gravity | GSC | bil and tif | qt_bga |

5. Paleontology

| Name | Area | Source | File |
|---|---|---|---|
| Aiken Lake | parts of 94C/5,6,12 | BCGSB | b94c05b |
| Uslika Lake | parts of 94C/3,4 | BCGSB | b94c03b |

6. Index

| Name | Area | Type | Scale | Source | File |
|---|---|---|---|---|---|
| Quesnel Trough | 93K, 93N, 94C, 93O, 93J | Roads | 1: 1000000 | GSC | qt_rds |
| Quesnel Trough | 93K, 93N, 94C, 93O, 93J | Lakes | 1: 1000000 | GSC | qt_lks |
| Quesnel Trough | 93K, 93N, 94C, 93O, 93J | Streams | 1: 1000000 | GSC | qt_str |
| Quesnel Trough | 93K, 93N, 94C, 93O, 93J | NTS Grid 1:250000 | 1: 1000000 | GSC | qt_nts2 |
| Quesnel Trough | 93K, 93N, 94C, 93O, 93J | NTS Grid 1:50000 | 1: 1000000 | GSC | qt_nts5 |
| Quesnel Trough | 93K, 93N, 94C, 93O, 93J | UTM Grid | 1: 1000000 | GSC | qt_utm |

# 8.0) Miscellaneous Tips

SurView User's

A number of file drawing list (*.FDL) files have been provided as a starting point for exploring the Quesnel Trough data. However, these files are only a suggestion on how the data might be viewed. In addition, these sample *.FDL files do not include all the data. Create your *.FDL files by combining *.ASX, *.BOB and/or *.GRX files using a text editor.

ArcView User's

Due to the number of *.E00 files contained on this CD-ROM it is recommended that a batch routine, such as the one outlined below, be used to assist in importing these files.

imp.bat

```
import g93k__b.e00 g93k__b
import g93k__s.e00 g93k__s
```

The above routine assumes that your computers path statement includes the arcview/bin directory. If not include the full pathname to the import.exe program in the batch routine.

```
c:\arcview\bin\import g93k__b.e00 g93k__b
```

A batch routine can quickly and easily be created using a text editor.

AutoCad User's

Drawing layer names, in most cases, are based on a six digit code. This coding scheme is used so as to convey as much information as possible in as few characters as possible. However, this coding convention requires a separate definition sheet that deciphers the meaning of the numeric code (see section 6.5 Line Coding Convention)

Arc/Info User's

If you install the Quesnel Trough symbol sets to your system, be careful not to overwrite existing font files (fnt***). The Quesnel Trough line symbols require three font files ( fnt027, fnt028 and fnt029) that are included on this CD.

# 9.0) Contacts

Since the amount of information that can be provided for each data set is limited, data custodians have been identified for each of the data sets. The data custodian did not necessarily collect or compile the particular data set but is knowledgeable about the data and can refer the user to the scientist or institution that collected the data if necessary to answer detailed questions.

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## 10.0) Disclaimer and Copyright

Although every attempt has been made to ensure that the contents of this CD-ROM are as accurate as possible, the data on his CD are provided on an "as-is" basis.



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