# Cartographic Design Specifications

Canada

BORDER

- Outermost line is 0.025 inches thick, GSC line symbol 825
- All other lines are 0.005 inches thick, GSC line symbol 805
- Spacing between lines is shown on diagram to the side
- Text for degrees should be 10 point, Universe Medium
- Text for minutes and seconds should be 8 point, Universe Medium
- Text should be centered within tick and thinnest border line
- If text is only minutes/seconds, then text is aligned with bottom edge of degrees annotation
- Subdivisions east and south of full degrees and every 10' are black
  - Exception: For 2' interval, subdivisions east and south of full degrees and every 20' are black
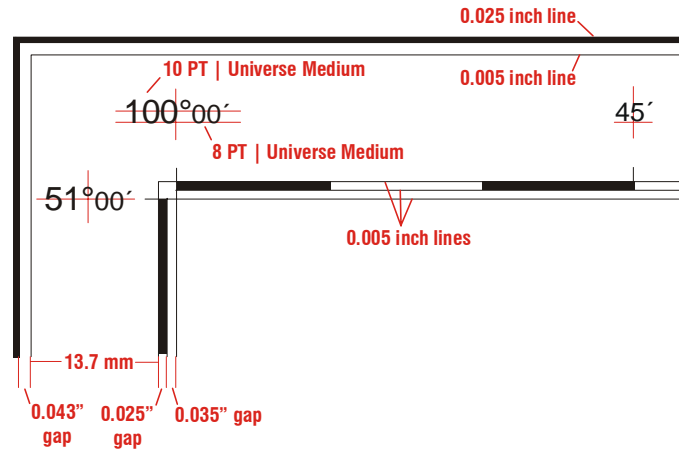
Map Scale	Longitude/ Latitude	Subdivision Interval		Projection Numbers and Ticks		Densify Factor (decimal degrees)	
		0° to 68° Lat	68° to 90° Lat	0° to 68° Lat	68° to 90° Lat	0° to 68° Lat	68° to 90° Lat
25 000	Longitude	30"	*	2' 30"	*	0.00208	0.00417
	Latitude	30"	*	2' 30"	*		
50 000	Longitude	1'	2'	5'	10'	0.00417	0.00833
	Latitude	1'	1'	5'	5'		
100 000	Longitude	2'	5'	10'	20'	0.00833	0.01667
	Latitude	2'	2'	10'	10'		
125 000	Longitude	2'	5'	10'	20'	0.00833	0.01667
	Latitude	2'	2'	10'	10'		
250 000	Longitude	5'	5'	15'	30'	0.02083	0.04167
	Latitude	5'	5'	15'	15'		
500 000	Longitude	15'	15'	30'	1°	0.06250	0.12500
	Latitude	15'	15'	30'	30'		
1 000 000	Longitude	15'	30'	1°	1°	0.06250	0.16667
	Latitude	15'	15'	1°	1°		

Procedure

- Prepare using the Create Border routine under the Tools menu in GEMS
- Enter the map publication scale in the field provided or choose it from a list of common scales by right clicking the input field
- Enter the coordinates for the four corners of the project area in degrees, minutes and seconds. Negative values must be entered for coordinates in the western and southern hemispheres
- Subdivision and tick intervals are automatically calculated based on the above chart. Enter new values to modify the intervals. The intervals can be viewed in either degree, minutes or seconds
- Enter name of the cover to create. By default, it will be BOR<workspace number> if it doesn't already exist. The neatline cover NTL< workspace number> will automatically be created if it doesn't exist
- Select a projection file to project the border to the OUTPUT portion. The DENSIFY subcommand is NOT required in the projection file as the cover will automatically be densified at the correct values
- Specify any of the options:
  - Include grid at tick intervals will add a grid/lines across the map face at the tick intervals
  - Include UTM grid will create a UTM grid and annotation in the final cover. This option applies only if the output projection is UTM
  - Include subgraticules will create subgraticules along lines of longitude or latitude between the neatline and the graticule
  - Apply coordinates to metadata will transfer latitude and longitude extremes to the required FGDC metadata element
  - View border when complete allows viewing the border when the routine has finished producing it

Create Border

Note: Negative degree values must be entered for coordinates in the western and southern hemispheres.

Publication scale 1:50000

	Degrees	Minutes	Seconds	
Western Longitude:	-115	30	0	C
Eastern Longitude:	-114	50	0	C
Southern Latitude:	63	45	0	C
Northern Latitude:	64	0	0	C

	Subdivision	Tick
Longitude interval:	1	5
Latitude interval:	1	5

Interval units: ○ Degrees ● Minutes ○ Seconds

Name of cover: BOR1234

Select a projection file to project the border to the output projection as defined in the projection file

geo-utm.prj

Display
Create...

Options...
☐ Include grid at tick intervals
☐ Include UTM grid
☐ Include subgraticules
☑ Apply coordinates to metadata
☑ View border when complete

OK   Cancel

CANADA WORDMARK

- For maps smaller than 36" x 48", the size of the wordmark should be 36 point
- For maps larger than 36" x 48", the size of the wordmark should be 48 point
- The flag in the wordmark should be red for both A-Series and Open Files
- Position of the wordmark is in the lower left corner of the map lined up with the recommended citation along the bottom and the map border or other information along the left edge

Sample: Canada

Procedure
- The Canada wordmark is plotted using the CNDLOGO command in ArcPlot

CNDLOGO {UL | CL | LL | UC | CC | LC | UR | CR | LR} {page_x} {page_y} {R | K} {point_size}

{UL | CL | LL | UC | CC | LC | UR | CR | LR} - two letter keyword specifying the position of the Canada wordmark to be placed at the specified page coordinate.

UL-upper left	**UC**-upper center	**UR**-upper right
CL-center left	**CC**-center center	**CR**-center right
LL-lower left	**LC**-lower center	**LR**-lower right

{page_x} - x coordinate in page units (inches or centimetres).
{page_y} - y coordinate in page units (inches or centimetres).

{R | K} - optional keyword for specifying the colour of the flag
    R - Colour of flag is red (CMYK 0 100 100 0). This is the default.
    K - Colour of flag is black.

{point_size} - optional numeric value specifying the point size of the text in the Canada wordmark. Default value is 36 points.

Note:
- If no arguments are specified
  - The word mark is positioned 0.75" from the lower left trim mark
  - The colour of the flag will be red
  - The point size of the word mark will be calculated based on the area of page size
- If position is specified, the arguments for page x and page y MUST be entered

COLOUR BARS

- Colour bars are necessary for offset printing in order to maintain an even distribution of ink across the entire page
- Press grips are usually positioned along the greater of the two page dimensions and next to the greatest area of colour concentration
- Colour bars are to be positioned opposite to the press grip
- One colour bar is required for each colour that is used as an area fill on the map

Procedure

- The colour bars can be plotted using the COLOURBAR command in ArcPlot

COLOURBAR {BOTTOM | TOP | LEFT | RIGHT} {thickness} {colour… colour} {BLANK}

{BOTTOM | TOP | LEFT | RIGHT} - keyword for placement of colour bars relative to the page

|	
BOTTOM	- colour bars are placed along the entire width of the page at the bottom of the page. This is the default
TOP	- colour bars are placed along the entire width of the page at the top of the page
LEFT	- colour bars are placed along the entire height of the page at the left side of the page
RIGHT	- colour bars are placed along the entire height of the page at the right side of the page

{thickness} - thickness or width of each colour bar in the current page units. The default width is 0.25 inches

{colour … colour} - any number of valid ARC/INFO colour names to be plotted in addition to cyan, magenta and yellow. Colour bars are always plotted toward the center of the page, with cyan being the first colour plotted at the edge of the page, followed by magenta, yellow and then any colours in **{colour … colour}** in the order they are entered

{BLANK} – keyword to suppress colour bars from plotting when using the on-demand plotting system

Note:
- Common colour names are cyan, magenta, yellow, blackx, brownx and bluex
- The page size in any plotting AML will have to be adjusted to accommodate the colour bars
- When placing colour bars at the bottom, left or right edge, any objects positioned with explicit page coordinates will also have to be adjusted
- The COLOURBAR command MUST be executed before the TRIMMARKS command in ArcPlot
  - This causes the trim marks to be positioned 0.5 inches from the page size and the last colour bar

5
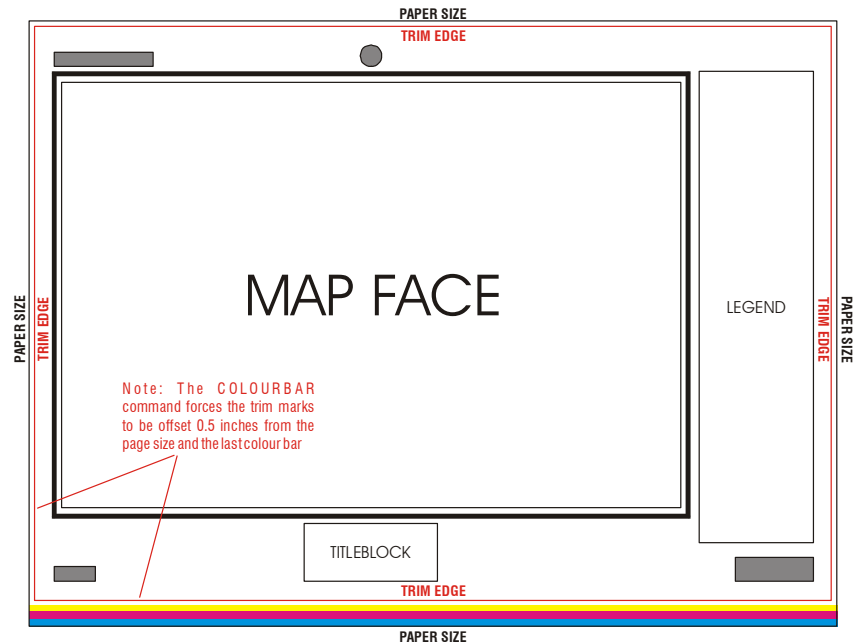
COPIES OF NOTE

- All A-series maps will have Ottawa, Calgary and Vancouver addresses shown
- A-series maps depicting any portion of Quebec MUST have the Quebec address added
- A-series maps that will be available at Dartmouth office MUST have the Dartmouth address added
- Open Files will NOT have a copies of note or published note added
- The Ottawa address must be in English and/or French depending on the language of publication
- The Calgary, Vancouver and Dartmouth addresses must be in English on all maps regardless of language of publication
- The Quebec address must be shown in French on all maps regardless of language of publication
- If map is co-published with another organization/agency, their address will appear after the GSC office addresses
- The text is 6pt, Triumvirate, line spacing 8
- The bottom of the first line of text is positioned 3mm from the map border

Samples:

UNILINGUAL version (English example shown)

3 mm — Copies of this map may be obtained   6 PT | Triumvirate | u/l | LE-L | LS 7.5   6 PT | Triumvirate | u/l | LE-R | LS 7.5 Published (- year -) 3 mm
from the Geological Survey of Canada:
601 Booth Street, Ottawa, Ontario K1A 0E8
3303-33rd Street, N.W., Calgary, Alberta T2L 2A7
101-605 Robson Street, Vancouver, B.C. V6B 5J3
490, rue de la Couronne, Québec, Quebec G1K 9A9 ——————— **Add only when map depicts any portion of Quebec**
1 Challenger Drive, P.O. Box 1006, Dartmouth, Nova Scotia B2Y 4A2 —— **Add only when map is available at Dartmouth office**

Manitoba Industry, Trade and Mines, Mineral Resources Division, ——— **LS 12 from GSC addresses**
Publication Sales, 360-1395 Ellice Avenue, Winnipeg, Manitoba R3G 3P2   **Sample of co-publishing organization's address displayed from surround\copiesof<map#>.txt**

BILINGUAL version - First official language is on the left (example below shows English first)

3 mm — Copies of this map may be obtained 6 PT | Triumvirate | u/l | LE-L | LS 7.5   6 PT | Triumvirate | u/l | LE-R | LS 7.5 On peut obtenir des exemplaires de cette carte en s'adressant 3 mm
from the Geological Survey of Canada: à la Commission géologique du Canada aux adresses suivantes :
601 Booth Street, Ottawa, Ontario K1A 0E8   601, rue Booth, Ottawa (Ontario) K1A 0E8
3303-33rd Street, N.W., Calgary, Alberta T2L 2A7   3303-33rd Street, N.W., Calgary, Alberta T2L 2A7
101-605 Robson Street, Vancouver, B.C. V6B 5J3   101-605 Robson Street, Vancouver, B.C. V6B 5J3
490, rue de la Couronne, Québec, Quebec G1K 9A9 ——— **Add only when map depicts any portion of Quebec** ——— 490, rue de la Couronne, Québec (Québec) G1K 9A9
1 Challenger Drive, P.O. Box 1006, Dartmouth, Nova Scotia B2Y 4A2 – **Add only when map is available at Dartmouth office** – 1 Challenger Drive, P.O. Box 1006, Dartmouth, Nova Scotia B2Y 4A2

Manitoba Industry, Trade and Mines, Mineral Resources Division, ——— **LS 12 from GSC addresses** ——— Manitoba Industry, Trade and Mines, Mineral Resources Division,
Publication Sales, 360-1395 Ellice Avenue, Winnipeg, Manitoba R3G 3P2   **Sample of co-publishing organization's address displayed from surround\copiesof<map#>.txt**   Publication Sales, 360-1395 Ellice Avenue, Winnipeg, Manitoba R3G 3P2

Published (- year -) **LS 7.5 from GSC addresses or**   **LS 7.5 from GSC addresses or** Publiée en (- year -)
LS 12 from co-pubisher address   **LS 12 from co-pubisher address**

Procedure

- Create using the COPIESOF command in ArcPlot (Syntax below)

COPIESOF <left_x left_y> <right_x right_y> <angle> {E | F | EF | FE} {year} {QUEBEC ... DARTMOUTH … FILE}

> **<left_x left_y>** - lower left X and Y coordinates of the map border in map units. A space or a comma can separate coordinate values.
> **<right_x right_y>** - lower right X and Y coordinates of the map border in map units. A space or a comma can separate coordinate values.
>
> **<angle>** - numeric value specifying the angle of the text (copies of note) at the lower left corner of the map border. This angle must be calculated based on page coordinate values when the map border is square to the page, regardless of any specified map angle. The text angle for the lower-right corner of the map border is automatically calculated. The default angle is 0 degrees.
>
> **{E | F | EF | FE}** - optional keyword to specify language preference of the copies of note.
> > **E** - The copies of note and published note will be unilingual English, positioned at the lower-left and lower-right corner of the map border respectively. This is the default.
> > **F** - The copies of note and published note will be unilingual French, positioned at the lower-left and lower-right corner of the map border respectively.
> > **EF** - The copies of note will be bilingual, with the English copies of note and published note positioned at the lower-left corner of the map border and the French copies of note and published note positioned at the lower-right corner of the map border.
> > **FE** - The copies of note will be bilingual, with the French copies of note and published note positioned at the lower-left corner of the map border and the English copies of note and published note positioned at the lower-right corner of the map border.
>
> **{year}** - optional integer value specifying the published year. The current year is plotted as the default.
>
> **{QUEBEC ... DARTMOUTH … FILE}** - optional keywords specifying office addresses to include in the copies of note. Any number of offices can be included in any order. The Ottawa, Calgary and Vancouver office addresses are always plotted.
>
> **FILE -** keyword indicating that additional addresses from other organizations/agencies are to be included, based on the contents in the file surround\copiesof<ws#>.txt. If map is bilingual, two files must exist, one preceded with an "e", the other an "f". This option can only be used when issuing the COPIESOF command within a GEMS application (i.e. plotting AML).

CREDIT NOTES

- All notes may not be required on the map; but the hierarchical order shown in the samples should be maintained
- Column width should be no more than 5 inches
- All text should be 8 point, Triumvirate Italic, center justified
- Spacing between lines of text should be LS 10
- Spacing between each credit note should be LS 30
- If there are multiple authors then find out if all are working for the GSC; if not, then the employer must be listed
- If no employer is listed it is assumed to be the GSC
- For multiple line notes the first line should be the longest
- The magnetic declination note in English SHOULD NOT have a space between the degrees, minutes, seconds, and direction (E or W)
- The magnetic declination note in French SHOULD have a space between the minutes, seconds, and direction (E or W)
- See the Glyph section of this document for use of special symbols such as ≥ ≤ ± ° ' " © –

Procedure

- Plotting credit notes in an AML
  - The following example can be used for plotting the correct point size between lines of text:
  - It provides a 30 point spacing between each note and 10 point spacing between lines of each note

```
TEXT 'Geology by P.H. Thompson, 1990' LC
&s y %y% - ( 30 * ( 1 / 72 ) )
MOVE %x% %y%
TEXT 'Any revisions or additional geological information known to the user' LC
&s y %y% - ( 10 * ( 1 / 72 ) )
MOVE %x% %y%
TEXT 'would be welcomed by the Geological Survey of Canada' LC
&s y %y% - ( 30 * ( 1 / 72 ) )
MOVE %x% %y%
```

Sample:

5 inch column

Geology by (-author(s)-), (-year of fieldwork-) **8 PT | Triumvirate Italic | u/l | LE-C | LS 30**

Geological compilation by (-author(s)-), (-year of compilation-)

Co-ordinated through the auspices of the (-project name-) NATMAP project

Co-ordinated by (-co-ordinator-) through the auspices of the (-project name-) **8 PT | Triumvirate Italic | u/l | LE-C | LS 10**
NATMAP project

(Any supplementary information concerning geology should be inserted here)

Digital cartography by (-cartographer(s)-), Earth Sciences Sector Information Division (ESS Info)

This map was produced from processes that conform to the ESS Info Publishing Services Subdivision
Quality Management System, registered to the ISO 9001: 2000 standard

Logistical support provided by the Polar Continental Shelf Project as part of its mandate to
promote scientific research in the Canadian North. PCSP (-support number-)

Any revisions or additional geological information known to the user
would be welcomed by the Geological Survey of Canada

Digital base map from data compiled by Geomatics Canada, modified by ESS Info

NTDB
1:50 000
1:250 000

Digital base map supplied by National Atlas Information Service (NAIS),
Geomatics Canada, modified by ESS Info

1:750 000
1:2 000 000
1:30 000 000

Select the most appropriate of these 3 digital base notes

Digital base map at the scale of 1:1 000 000 from the Digital Chart of the World (DCW) from
Environmental Systems Research Institute (ESRI), with modifications by ESS Info

DCW
1:1 000 000

Digital bathymetric contours in metres supplied by the Canadian Hydrographic Service

Some geographical names subject to revision **If unofficial names are used on map**

Proximity to the North Magnetic Pole causes the magnetic compass to be useless in this area **Use if indicated by MIRP program, DO NOT follow with any magnetic declination information**

Proximity to the North Magnetic Pole causes the magnetic compass to be erratic in this area **Use if indicated by MIRP program | LS 10**

Magnetic declination (-year-), XXºXX' (E or W), (in or de)creasing XX.X' annually

1:50 000 or larger scale
Declination from center of map

Mean magnetic declination (-year-), XXºXX' (E or W), (in or de)creasing XX.X' annually.
Readings vary from XXº XX' (E or W) in the (-quadrant-) corner
to XXº XX' (E or W) in the (-quadrant-) corner of the map

1:100 000 to 1:500 000 scale
Declination from corners with greatest diagonal difference

Select the most appropriate of these 2 magentic declination notes

Elevations in (-feet or metres-) above mean sea level

(Any supplementary topographical information should be inserted here)

Sample:

Géologie : *(-author(s)-)*, *(-year of fieldwork-)* **8 PT | Triumvirate Italic | u/l | LE-C | LS 30**

Compilation géologique : *(-author(s)-)*, *(-year of compilation-)*

Travaux menés dans le cadre du Projet *(-project name-)* *du CARTNAT*

Travaux menés dans le cadre du Projet *(-project name-)* *du CARTNAT* **8 PT | Triumvirate Italic | u/l | LE-C | LS 10**
sous la coordination de *(-co-ordinator-)*

(Any supplementary information concerning geology should be inserted here)

Cartographie numérique : *(-cartographer(s)-)*, *Division de l'information du Secteur*
des sciences de la Terre (Info SST)

La présente carte a été produite conformément aux processus du système de gestion de la qualité
en vigueur à la Sous-division des services de publication d'Info SST
certifié selon la norme ISO 9001 : 2000.

Appui logistique de l'Étude du plateau continental polaire dans le cadre de son mandat de
promotion de la recherche scientifique dans le Nord canadien. ÉPCP *(-support number-)*

Les utilisateurs sont priés de faire connaître au personnel de la Commission géologique
du Canada les erreurs ou omissions de nature géologique qu'ils auront pu constater.

Fond de carte numérique : Géomatique Canada
Modification du fond de carte numérique : Info SST

NTDB
1:50 000
1:250 000

Fond de carte numérique : Le Service d'information de l'Atlas national (SIAN), Géomatique Canada
Modification du fond de carte numérique : Info SST

1:750 000
1:2 000 000
1:30 000 000

Select the most appropriate of these 3 digital base notes

Fond de carte numérique (échelle : 1/1 000 000) : Digital Chart of the World (DCW),
Environmental Systems Research Institute (ESRI)
Modification du fond de carte numérique : Info SST

DCW
1:1 000 000

Numérisation des isobathes (en mètres) : Service hydrographique du Canada

Certains noms géographiques ne sont pas officiellement reconnus. **If unofficial names are used on map**

Dans la présente région, la proximité du pôle Nord magnétique fait en sorte
que la boussole est inutile.

Use if indicated by MIRP program, DO NOT follow with any magnetic declination information

Dans la présente région, la proximité du pôle Nord magnétique fait en sorte
que la boussole donne parfois de fausses lectures.

Use if indicated by MIRP program | LS 10

Déclinaison magnétique en *(-year-)* *:* *XX° XX' (E or W), (augmentant or diminuant)*
de XX,X' par année

1:50 000 or larger scale Declination from center of map

Déclinaison magnétique moyenne en *(-year-)* *de* *XX° XX' (E or W), (augmentant or diminuant)*
de XX,X' par année. Les lectures varient de *XX° XX' (E or W)* *dans le coin* *(-quadrant-)*
de la carte à *XX° XX' (E or W)* *dans le coin* *(-quadrant-)* *de la carte.*

1:100 000 to 1:500 000 scale Declination from corners with greatest diagonal difference

Select the most appropriate of these 2 magentic declination notes

Altitudes en *(-pieds ou mètres-)* *au-dessus du niveau moyen de la mer*

(Any supplementary topographical information should be inserted here)

DESCRIPTIVE NOTES

- Column width should be 5 inches with a 0.5 inch gap between multiple columns
- All text should be Triumvirate for both A-series and Open Files
- The GSC Special font must be used for reference letters if used on the map face
- Reference letters shown must be contained in brackets and preceded by the word "unit" or "units"
- Titles (such as DESCRIPTIVE NOTES and ACKNOWLEDGMENTS) should be 10 point, capital case, centered on column, line spacing 22
- All titles should have line spacing 36 from the previous map feature
- Headings should be one of the following hierarchal levels
  - First level - 9 point, capital case, left justified on column, line spacing 12
  - Second level - 8 point, capital case or upper/lower case, left justified on column, line spacing 10
  - Third level - 8 point, upper/lower case, left justified on column, line spacing 10
  - If a third level exists, then the second level MUST be 8 point, capital case, left justified on column, line spacing 10
- Paragraph text should be 7 point, upper/lower case, left/right justified on column, line spacing 8, line spacing 8.918 to next paragraph
- The first paragraph under each title or heading is NOT indented, but all subsequent paragraphs are indented 1 pica

Sample:

5 inch columns, 0.5 inch gap between multiple columns

Note: Heading PT size is based on hieararchy level. First level should be 9 PT CAPS, Second level should be 8 PT CAPS or 8 PT u/l, and the Third level should be 8 PT u/l, which forces the second level to be 8 PT CAPS.

Note: The Corel default for paragraph spacing is used for 7 PT text. It is 100% of the character height or set LS 8.918

Note: If reference letters are present, they must be contained in brackets along with the word "unit" or "units".

Note: The first paragraph under each title or heading is not indented, but all subsequent paragraphs are indented 1 pica.

LS 36 from previous map feature DESCRIPTIVE NOTES **10 PT | ATTriumvirate | CAPS | LE-C | LS 22**

INTRODUCTION **9 PT | ATTriumvirate | CAPS | LE-L | LS 12**

This map is one of a set of two 1:50 000 scale colour Open File maps, published as contributions to the Western Churchill NATMAP Project. These maps present preliminary results of bedrock mapping carried out by the Geological Survey of Canada during the 1999 field season. **7 PT | ATTriumvirate | u/l | LE-J | LS 8 inside paragraph, LS 22 to next header**

LITHOLOGY **9 PT | ATTriumvirate | CAPS | LE-L | LS 12**
Geological overview **8 PT | ATTriumvirate | u/l | LE-L | LS 10**

The Akunak Bay area (Fig. 1) includes previously mapped eastern portions of the Archean MacQuoid Gibson supracrustal belt, Big Lake shear zone, and the CrossBay plutonic complex (Hanmer et al., 1999a; Tella et al., 1997 a,b, 1999). The region is underlain by Neoarchean, amphibolite facies, polydeformed sedimentary and mafic volcanics rocks (units 0s, 0v), tonalitic orthogneisses (unit 0t) and felsic to mafic intrusions (units 0di, 0g, 0tp).

Metasedimentary and mafic volcanic supracrustal rocks (units 0s, 0v) **8 PT | ATTriumvirate | u/l | LE-L | LS 10**

Between Akunak Bay and Butts Lake (sheets 1, 2), the polydeformed metasedimentary rocks (unit 0s) and intercalated mafic volcanic rocks (unit 0v) are exposed in a NWtrending, polydeformed belt, which is truncated to the west by a NNW trending fault that extends towards Little Big Island. West of this tectonic break, planar fabrics trend northeast with moderate to steep dips (> 45°) both to the northwest. **7 PT | ATTriumvirate | u/l | LE-J | LS 8.918 to next paragraph**

1 pica Southwest of Butts Lake (sheet 1) and southeast of the Promise Point granite plutons (sheet 2), the metasedimentary paragneiss (unit 0s) consists of biotite+garnet+plagioclase+quartz+/sillimanite assemblages. They are fineto mediumgrained ironrich pelites and psammites that are compositionally well banded with quartz, quartz+feldspar, and garnet+biotite +/sillimanite rich layers. **LS 36 to next Title**

ACKNOWLEDGMENTS **10 PT | ATTriumvirate | CAPS | LE-C | LS 22**

We extend our thanks to the following: L. Lepage, C. StudnickiGizbert, and M. ter Meer for excellent field assistance; Polar Continental Shelf Project for generous helicopter support; J. Boles and J. Atkinson our helicopter crew; M&T Enterprises Ltd., Rankin Inlet, for expediting services. Discussions and exchange of ideas on regional tectonic and metamorphic framework with W. Davis and R.G. Berman during their field visits were most valuable. **LS 36 to next Title**
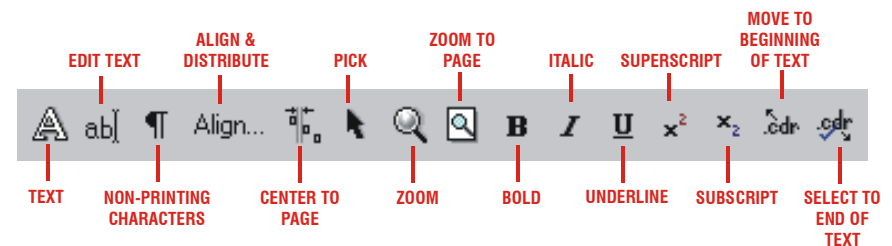
Procedure

- A procedure has been developed using CorelDraw to import a word processor file, edit and export an encapsulated postscript file that can be used in an ArcPlot AML
- All custom templates, font styles and toolbars are available to download as a zip file

Steps to create .EPS file
- Open author's text file in Microsoft Word or WordPerfect
  - Delete all blank lines and Save as an .RTF (imports easier into CorelDraw)
- Start CorelDraw, Click File, Click New from Template, Check CorelDraw templates, Choose CSSC Descriptive Notes & References category, Choose 1, 2 or 3 column template then Click Finish
- Click the TEXT tool and click in paragraph text box
- Click EDIT TEXT tool
  - Select IMPORT and import the .RTF file
  - Select OPTIONS and SELECT ALL
  - Select ATTriumvirate from the font list to ensure all text is the same font
  - Select 7 pt from the font size list to ensure all text is the same font size
  - Click OK to apply changes and exit the EDIT TEXT tool
- Select all text and set to font style 10.Paragraph, 7pt u/l (paragraph 7pt no indent)
- Zoom in to column width for a more comfortable working view
- Change Titles and Headings by placing cursor on a line of text and selecting an appropriate font style. Text spacing is automatic with styles.
- Change all paragraphs after the first paragraph under a heading to font style 11.Paragraph ind 1pi, 7pt u/l (paragraph 7 pt indented)
- Change GSC age designators to GSC special font and add brackets with word *unit* or *units*
- Ensure all glyphs are properly assigned, see the glyph section of this document for proper method
- Ensure all superscripts and subscripts are properly assigned
- Press F4 key or Click Zoom to Page tool to zoom out to full image view
- Click PICK tool and adjust the paragraph text box length to be long enough so all text is viewable
- Reset page size to the same dimensions as the paragraph text box size
- Select paragraph text box and align to center of page by clicking the ALIGN tool or Center to Page tool
- Save as .CDR for future editing (if needed)
- Export as .EPS (extension .eps should be used)
  - Include header option should be off
  - Export text as text and include fonts
  - Floating Bounding Box option should be on
- Exit CorelDraw
- Convert .EPS file to UNIX format using CONVERTCRLF program so it will load into ArcInfo properly
  - Just drag and drop .eps file onto Convertcrlf icon in desktop workspace
  - Click on your .eps file from the input file list (make sure Choose output format is on UNIX)
  - Click OK to apply and click Close to exit
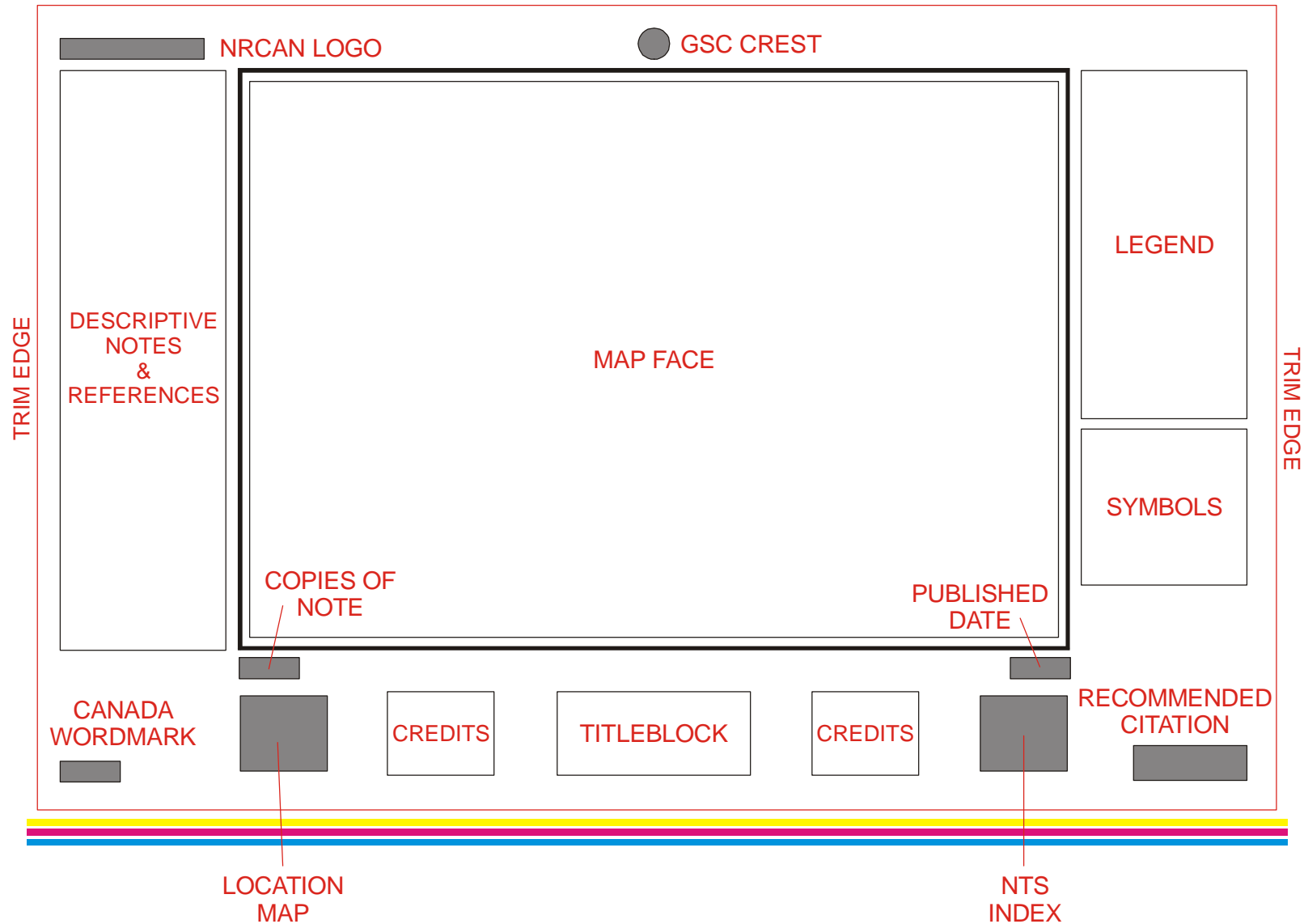- Use EPS command to plot in ArcPlot

COMMON TOOLS MENTIONED ABOVE

MOVE TO BEGINNING OF TEXT

EDIT TEXT | ALIGN & DISTRIBUTE | PICK | ZOOM TO PAGE | ITALIC | SUPERSCRIPT

TEXT | NON-PRINTING CHARACTERS | CENTER TO PAGE | ZOOM | BOLD | UNDERLINE | SUBSCRIPT | SELECT TO END OF TEXT
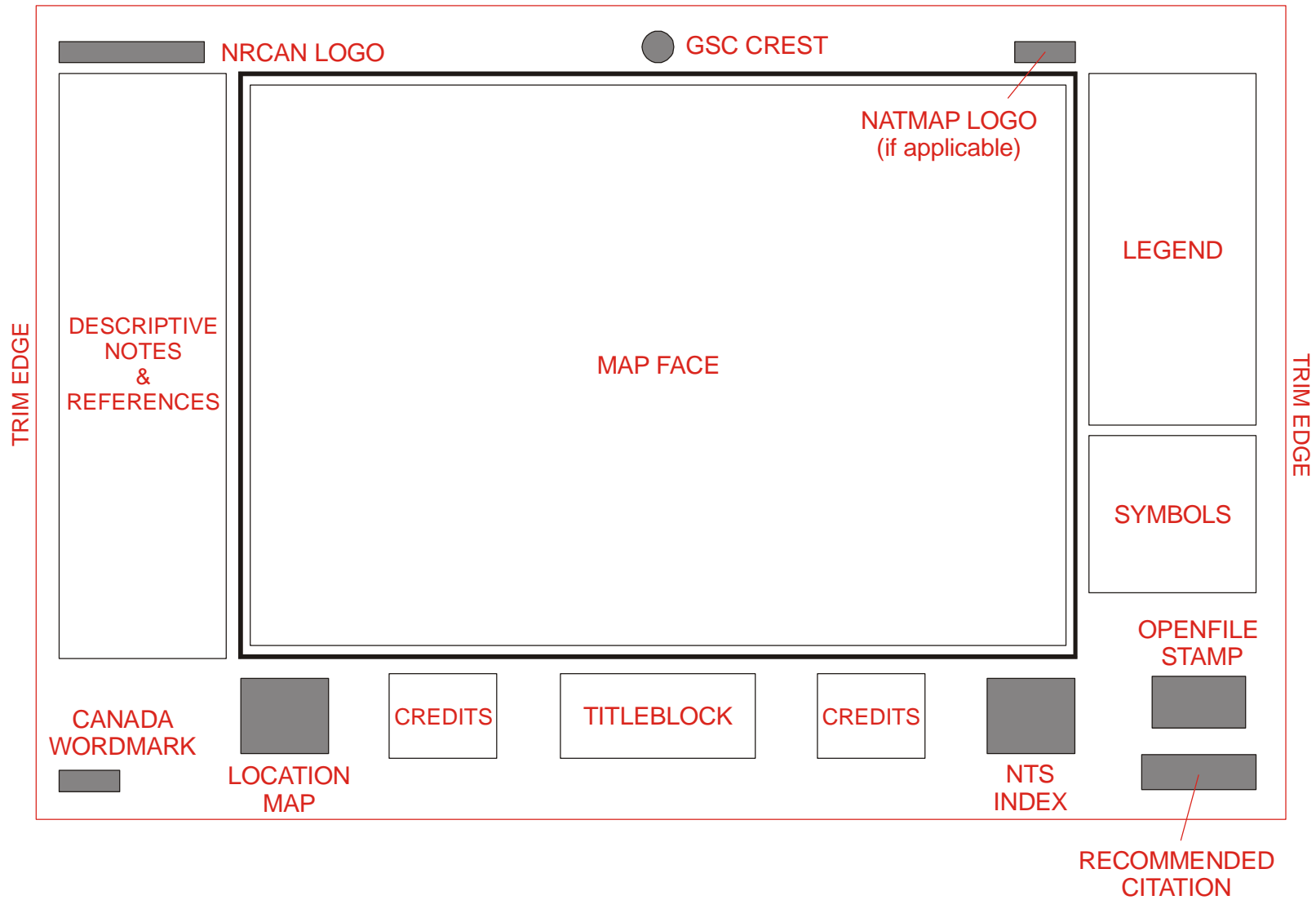
DESIGN LAYOUTS

- Each of these design layouts are for standard maps, some special layouts may be required depending on surround information to be shown
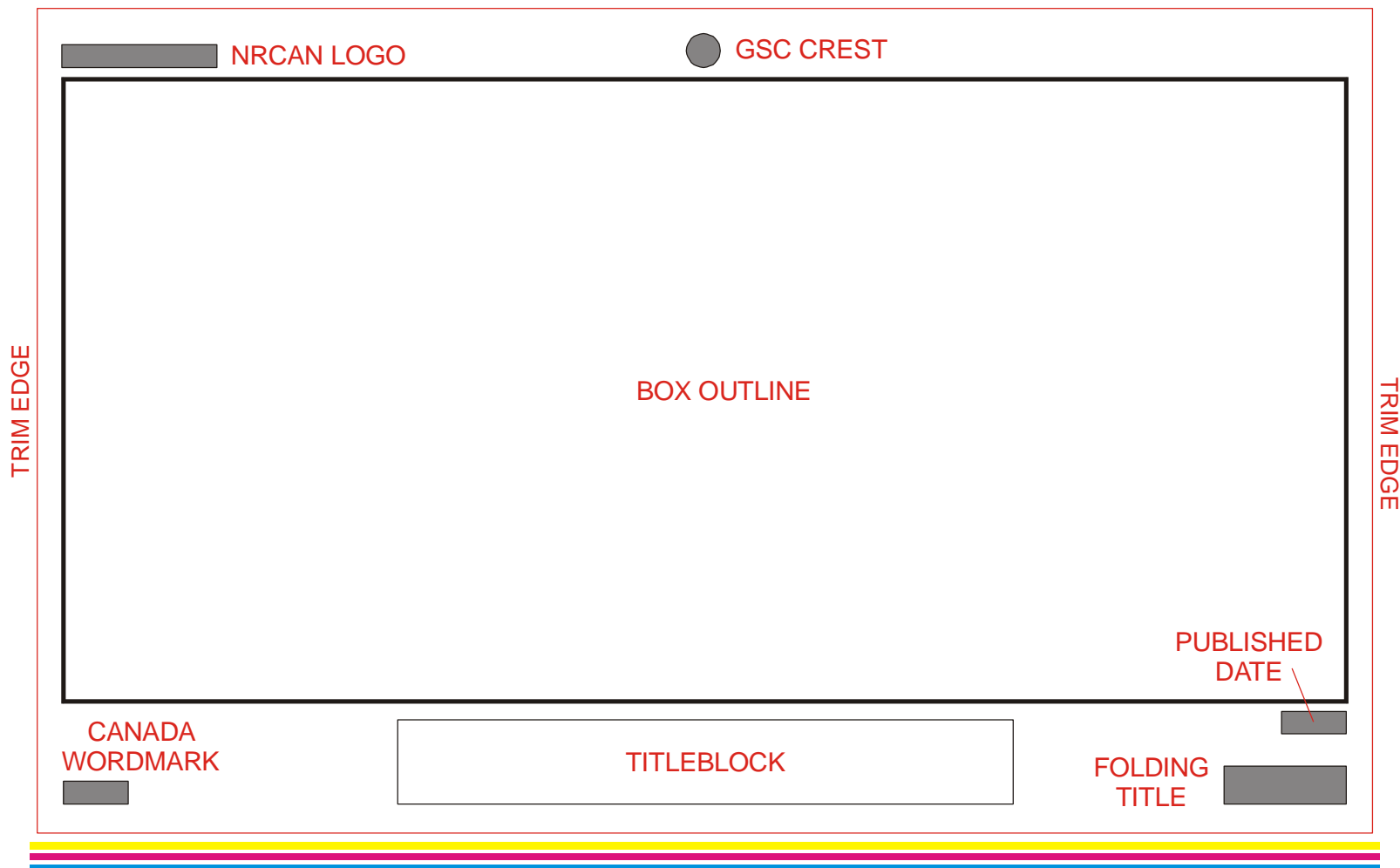
A-SERIES:

NRCAN LOGO

GSC CREST

LEGEND

DESCRIPTIVE
NOTES
&
REFERENCES

TRIM EDGE

MAP FACE

TRIM EDGE

SYMBOLS

COPIES OF
NOTE

PUBLISHED
DATE

CANADA
WORDMARK

CREDITS

TITLEBLOCK

CREDITS

RECOMMENDED
CITATION

LOCATION
MAP

NTS
INDEX

OPEN FILES:

POCKET FIGURES:

NRCAN LOGO

GSC CREST

TRIM EDGE

BOX OUTLINE

TRIM EDGE

PUBLISHED DATE

CANADA WORDMARK

TITLEBLOCK

FOLDING TITLE

GLYPHS

ArcInfo Glyphs
- Credit notes, legend and other surround items produced in ArcInfo may require special symbols
- Special Intellifont Glyphs are supplied in ArcInfo Font 94021

Common Symbols	Glyph	Pattern Number
greater than and equal to	≥	1323
less than and equal to	≤	1324
plus or minus	±	1706
degree	°	1712
minutes	'	7255
seconds	"	7256
copyright	©	493
en dash	–	1574
em dash	—	1575

- To use a glyph in an AML, just change the font and specify the pattern number and then change back to the original font:

```
TEXTSTYLE TYPESET
TEXTQUALITY PROPORTIONAL
TEXT '!fnt94021;!pat(pattern number);!fnt93710; …'
```

PC Software Glyphs
- Descriptive notes, references and other surround items produced on various PC software may require special symbols
- Obtain desired glyph by holding down the ALT key and typing keystrokes listed below.
- Numbers sequences must be typed on a numeric keypad and must include the preceding zero
- Some symbols cannot be made with keystrokes, they can be found under the Insert Symbol menu in word processors

Common Symbols	Glyph	Keystrokes
greater than and equal to	≥	Insert Symbol Menu
less than and equal to	≤	Insert Symbol Menu
plus or minus	±	Alt+0177
degree	°	Alt+0186
minutes	'	Alt+039
seconds	"	Alt+034
copyright	©	Alt+0169
en dash	–	Alt+0150
em dash	—	Alt+0151

- For other less common glyphs or accented characters, use the Unicode Character Map that is on all PCs.
  - Under the Start/Programs/Accessories menu, select Character Map
  - A small menu with a graph of all characters in a font will appear
  - Select the font (in the Font pull-down) that matches the font being used on the map
  - Make sure the Subset pull-down is set to Windows Characters
  - There is two ways to obtain the desired glyph or accented character
    - Click on the glyph or accented character desired and the ALT-keystroke will be displayed in the lower right display menu. The keystroke can then be used in the PC software for producing the map element.
    - Click on the glyph or accented character desired, then click the Select button, then click the Copy button. This places the character in the clipboard so it can be pasted in the PC software used for producing the map element.
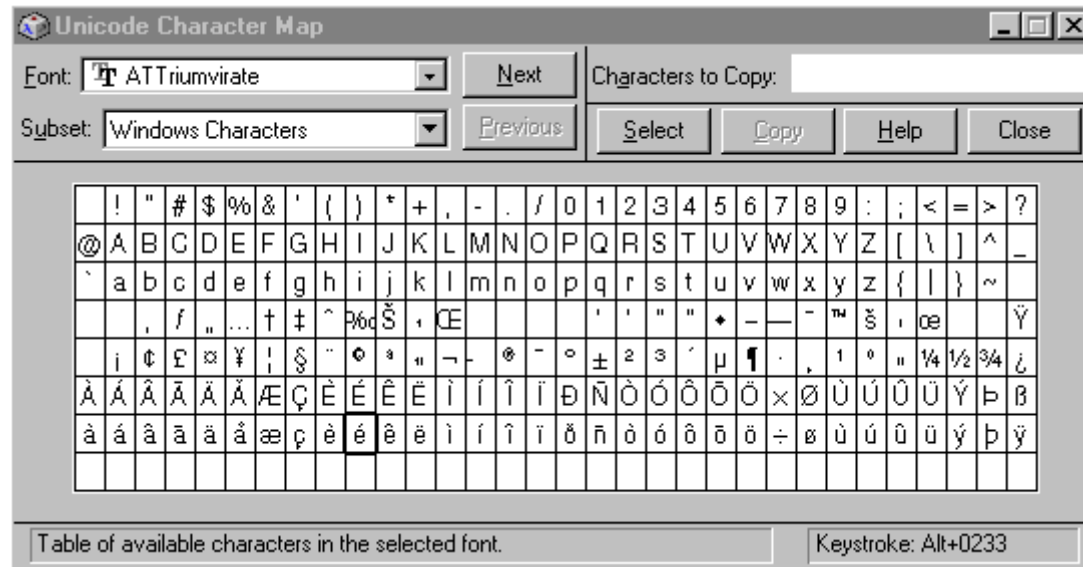
Meta Data Glyphs
- When entering Meta Data in GEMS it may be much easier to use the character combinations listed below instead of embedding glyphs
  - Hyphen – enter a single hyphen with no space on either side
  - En dash – enter two hyphens with no space on either side
  - Em dash – enter a single hyphen with a space on either side

GSC CREST

- The crest should be black & white for all offset printed A-series and colour for all on-demand A-series and Open Files
- Position of the crest is 6 mm above the center of the map border
- The default size is 0.7 inches for the logo and 7 point Triumvirate for the text
- To download various formats of the GSC Crest, go to this Intranet only website

Samples:

 GEOLOGICAL SURVEY OF CANADA   COMMISSION GÉOLOGIQUE DU CANADA   GEOLOGICAL SURVEY OF CANADA   COMMISSION GÉOLOGIQUE DU CANADA

Procedure
- The GSC crest is plotted using the GSCLOGO command in ArcPlot

GSCLOGO <UC | CC | LC> <page_x> <page_y> {BW | COLOUR | GRAY} {E | F} {crest_size} {point_size | NOTEXT} {OPAQUE}
GSCLOGO BORDER <map_x> <map_y> {BW | COLOUR | GRAY} {E | F} {crest_size} {point_size | NOTEXT} {OPAQUE}

    BORDER - keyword stating that the lower center position of the GSC crest will be placed 6mm above the specified map coordinate

    <UC | CC | LC> - two letter keyword specifying the position of the GSC crest to be placed at the specified page coordinate.
        UC-upper center
        CC-center center
        LC-lower center

    <page_x> - x coordinate in page units (inches or centimetres).
    <page_y> - y coordinate in page units (inches or centimetres).
    <map_x> - x coordinate in map units.
    <map_y> - y coordinate in map units.

    {BW | COLOUR | GRAY} - optional keyword for plotting the GSC crest in black & white, colour or grayscale

    {E | F} - optional keyword to specify which language will appear first on the crest
        E - English on left, French on right. This is the default.
        F - French on left, English on right.

    {crest_size} - optional numeric value specifying the diameter of the crest in inches. Default is 0.7 inches.

    {point_size | NOTEXT}
        point_size - optional numeric value specifying the point size of the text on either side of the GSC crest. Default is 7 points
        NOTEXT - keyword stating that only the crest will be plotted with no text on either side

    {OPAQUE} - creates a white mask under the logo to knock-out any underlying imagery

GSC AGE DESIGNATORS

- The GSC special font is used as reference letters to symbolize a geological age
- The chart lists the most common ages and the special font letter used to represent them
- Scaled down capital letters designate Group, Formation or Member
  E.g. TRIASSIC SPRAY RIVER GROUP: T̄SR

- Lower case letters designate lithology and/or mineralogy
  E.g. CRETACEOUS granite: Kg

- The following modifiers are placed on the left side of the age symbol

  Early   E   Middle   M   Late   L
  lower   l   middle   m   upper   u

  E.g. UPPER CRETACEOUS: uK

- In legend blocks show commas between two or more: Formations, Groups, Members, lithologies and mineralogies

Procedure
- The GSC special font can be accessed as font 110001 in ArcInfo or as textsymbol 510 in GSC.TXT
- The font was created with the age symbols under various keystrokes (which are listed in the chart), regular alphabet keys are the same except the capital letters are already scaled down as mentioned above
- To input the special age symbols into the item CODE for the Cartographic Digital Standards, please see the GEO procedure section of that document for instructions

Symbol	Age	Keystroke	Symbol	Age	Keystroke
C	CENOZOIC	1	P	PALEOZOIC	>
Q	QUATERNARY	/	P	PERMIAN	?
R	RECENT	#	P	PENNSYLVANIAN	@
P	PLEISTOCENE	$	M	MISSISSIPPIAN	4
T	TERTIARY	2	C	CARBONIFEROUS	7
P	PLIOCENE	&	D	DEVONIAN	5
M	MIOCENE	6	S	SILURIAN	^
O	OLIGOCENE	(	O	ORDOVICIAN	_
E	EOCENE	)	C	CAMBRIAN	`
P	PALEOCENE	*	P	PROTEROZOIC	{
N	NEOGENE	+	H	HADRYNIAN	|
P	PALEOGENE	.	H	HELIKIAN	}
M	MESOZOIC	:	N	NEOHELIKIAN	~
K	CRETACEOUS	3	P	PALEOHELIKIAN	8
J	JURASSIC	<	A	APHEBIAN	9
T	TRIASSIC	=	A	ARCHEAN	0

LEGEND

- The legend should be placed on the right side of the map sheet one half inch from edge of map border when possible
- Column width is 5 inches with 0.5 inch gap between multiple columns

Geological Unit Legend
- The legend boxes are 10 mm (28pt) in height by 18 mm (4.2 picas) in width
- Line weight of the box is 0.010 inch

Legend Type	Required Font	Legend Feature
Bedrock	Triumvirate (fnt 93709)	Headings
	Triumvirate Italic (fnt 93710)	Descriptions
Surficial	Triumvirate Bold (fnt 93711)	Headings
	Triumvirate Bold (fnt 93711)	"Environmental Descriptions" and "Time Units"
	Triumvirate Bold Italic (fnt 93712)	Descriptions preceding a colon
	Triumvirate Italic (fnt 93710)	Descriptions

Symbols Legend
- Descriptions are left justified on column width
- Symbols are right justified on column width
- A dotted line (.008" dot and .080" space) connects the description to the symbol
- The order of appearance for bedrock and surficial symbols in the legend are determined by the author

Required Font	Legend Feature
Triumvirate Italic (fnt 93710)	Descriptions
Triumvirate Italic (fnt 93710)	Numeric modifiers (dip numbers, striae ages)

Procedure
- Legends are created using the LEGEND command with a legend<workspace number>.txt ASCII file containing custom commands
- More detailed information on this GEMS command can be found as a PDF file called Geological Legend Command Reference

BEDROCK SAMPLE:

L E G E N D

QUARTERNARY

PLEISTOCENE AND HOLOCENE

Q

Fluvial, deltaic, glacial, and marine beach sediments.

CRETACEOUS AND TERTIARY

UPPER CRETACEOUS AND PALEOGENE

EUREKA SOUND GROUP (units KTE-TSB)

TSB

STRAND BAY FORMATION (Paleocene): shale, dark grey- to dark brown-weathering;
siltstone; prodeltaic.

KTE

EXPEDITION FORMATION (Maastrichtian and Paleocene): sandstone, quartzose and carbonaceous; siltstone; common coalified wood fragments and logs; deltaic.

CACHE CREEK TERRANE

JURASSIC

LOWER JURASSIC (may be in part, Middle Jurassic)

JI

INKLIN FORMATION: penetratively cleaved, phyllitic slate, greywacke, pebble and cobble conglomerate. JId: *diamictite, possibly Kutcho Formation in part.*

TRIASSIC

uTs

SINWA FORMATION: limestone, commonly argillaceous and fetid.

LOWER TRIASSIC

ITk

KUTCHO FORMATION: basaltic to rhyolitic schist (flows, breccia, crystal tuff); fine grained volcanic sediments, basic schist, conglomerate (may be basal Inklin Formation in part). ITJKu: *undivided Kutcho Inklin and possibly Cache Creek rocks.*

Bedrock Sample of legend<ws#>.txt:

```
TITLE
AP 'SHADEDELTE ALL; SHADESET GSC'
MAPTYPE BEDROCK
HEADING L QUATERNARY
HEADING I 'PLEISTOCENE AND HOLOCENE'
BOX 4 /
DESC
Fluvial, deltaic, glacial, and marine beach sediments.

HEADING L 'CRETACEOUS AND TERTIARY'
HEADING I 'UPPER CRETACEOUS AND PALEOGENE'
HEADING G 'EUREKA SOUND GROUP (units !FNT110001;32E-2SB!FNT93709;)'
BOX 2 2SB
DESC
STRAND BAY FORMATION (Paleocene): shale, dark grey- to dark brown-
weathering; siltstone; prodeltaic.

BOX 14 32E
DESC
EXPEDITION FORMATION (Maastrichtian and Paleocene): sandstone,
quartzose and carbonaceous; siltstone; common coalified wood
fragments and logs; deltaic.

TEXT 'CACHE CREEK TERRANE' CENTER
HEADING L JURASSIC
HEADING I 'LOWER JURASSIC (may be in part, Middle Jurassic)'
BOX 415 <I
DESC
INKLIN FORMATION: penetratively cleaved, phyllitic slate, greywacke, pebble
and cobble conglomerate. !FNT110001;<Id!FNT93710;: diamictite, possibly
Kutcho Formation in part.

HEADING L TRIASSIC
HEADING 436 'UPPER TRIASSIC'
BOX 211 u=S
DESC
SINWA FORMATION: limestone, commonly argillaceous and fetid.

HEADING I 'LOWER TRIASSIC'
BOX 417 l=K
DESC
KUTCHO FORMATION: basaltic to rhyolitic schist (flows, breccia, crystal tuff);
fine grained volcanic sediments, basic schist, conglomerate (may be basal Inklin
Formation in part). !FNT110001;l=JKL!FNT93710;: undivided Kutcho Inklin and
possibly Cache Creek rocks.

END
```

SURFICIAL SAMPLE:

5 inch columns, 0.5 inch gap between multiple columns

L E G E N D 10 PT | Triumvirate | CAPS | LE-C | LS 24

Coloured legend blocks indicate map units that appear on this map. 8 PT | Triumvirate Italic| u/l| LE-C | LS 20

QUATERNARY 9 PT | Triumvirate Bold | CAPS | LE-L with legend box | LS 10

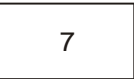**HOLOCENE** 8 PT | Triumvirate Bold | CAPS | LE-L | LS 15

2.5 picas

NONGLACIAL ENVIRONMENT 8 PT | Triumvirate Bold | CAPS | LE-C | LS 10 to top of legend box

8 PT | Triumvirate Bold Italic before the colon

8

ORGANIC DEPOSITS: *peat and muck up to 2 m thick; formed predominantly by the* 8 PT | Triumvirate Italic | u/l| LE-L | LS 10 *accumulation of vegetative material in bogs; occurs in depressions and along valley bottoms; permafrost is commonly present; contains small palsas, ice-wedge polygons, and thermokarst collapse structures. Small unmapped organic deposits occur in most terrain units.* 8 PT | Triumvirate Italic | u/l| LE-L | LS 14 to top of legend box

5 picas

7

ALLUVIAL DEPOSITS: *gravel to silt size sediment deposited by modern streams and rivers; deposits generally are stratified and moderately sorted; 1 to 5 m thick; occurs as floodplains, in places covered by icings.*

LS 20 from bottom of legend box

PLIESTOCENE (WISCONSIN GLACIATION) 8 PT | Triumvirate Bold | CAPS | LE-L | LS 15

GLACIAL ENVIRONMENT 8 PT | Triumvirate Bold | CAPS | LE-C | LS 10 to top of legend box

6

GLACIOLACUSTRINE DEPOSITS: *silt and sand; cross-stratified to planer bedded; 1 to 8 m thick; deposited into temporary glacier-dammed lakes and ponds.*

LS 20 from bottom of legend box

GLACIOFLUVIAL DEPOSITS: *sand, silt, and minor gravel from sub-, en- or supraglacial fluvial deposits and proglacial valley train deposits.* 8 PT | Triumvirate Italic | u/l| LE-L | LS 15 to top of legend box

5b

Outwash deltaic deposits: *fine gravel or sand 1 + m thick, over massive to stratified sand or silt; rarely fossiliferous; up to 20 m thick; deposited at distal end of valley train in marine environment at limit of postglacial inundation.*

LS 14 between legend boxes
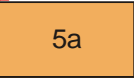
5a

Outwash deposits: *sand, silt, or bouldery gravel, in plains, terraces, or fans; 1 to 10 + m thick; proglacial in fluvial, or possibly subacqueous environment.*

Note: All descriptions beside the legend box that are 1, 2 or 3 lines of text will be centered vertically with the legend box.

Surficial Sample of legend<ws#>.txt:

```
TITLE
AP 'SHADEDELTE ALL; SHADESET GSC'
TEXT 'Coloured legend blocks indicate map units that appear on this map.' CENTER
MAPTYPE SURFICIAL
HEADING L QUATERNARY
HEADING I HOLOCENE
TEXT 'NONGLACIAL ENVIRONMENT' CENTER
BOX 994 8
DESC
ORGANIC DEPOSITS: peat and muck up to 2 m thick; formed predominantly by the
accumulation of vegetative material in bogs; occurs in depressions and along
valley bottoms; permafrost is commonly present; contains small palsas,
ice-wedge polygons, and thermokarst collapse structures. Small unmapped
organic deposits occur in most terrain units.


BOX # 7
DESC
ALLUVIAL DEPOSITS: gravel to silt size sediment deposited by modern streams
and rivers; deposits generally are stratified and moderately sorted; 1 to 5 m
thick; occurs as floodplains, in places covered by icings.

HEADING I 'PLIESTOCENE (WISCONSIN GLACIATION)'
TEXT 'GLACIAL ENVIRONMENT' CENTER
BOX 240 6
DESC
GLACIOLACUSTRINE DEPOSITS: silt and sand; cross-stratified to planar bedded;
0 0.0 1 to 8 m thick; deposited into temporary glacier-dammed lakes and ponds.

NOTE
GLACIOFLUVIAL DEPOSITS: sand, silt, and minor gravel from sub-, en- or
supraglacial fluvial deposits and proglacial valley train deposits.

BOX 25 5b
DESC
Outwash deltaic deposits: fine gravel or sand 1 + m thick, over massive to
stratified sand or silt; rarely fossiliferous; up to 20 m thick; deposited at
distal end of valley train in marine environment at limit of postglacial
inundation.


BOX 37 5a
DESC
Outwash deposits: sand, silt, or bouldery gravel, in plains, terraces, or fans;
0 0.0 1 to 10 + m thick; proglacial in fluvial, or possibly subacqueous
environment.

END
```

SYMBOL LEGEND SAMPLE:

ITK *KUTCHO FORMATION: basaltic to rhyolitic schist (flows, breccia, crystal tuff); fine grained volcanic sediments, basic schist, conglomerate (may be basal Inklin Formation in part); IKJKL undivided Kutcho Inklin and possibly Cache Creek rocks*

Geological contact (defined, approximate)

Limit of fieldwork, 2000

Form lines

D$_{1P}$ thrust fault (defined, approximate);
teeth on hanging wall

Oblique-slip fault (defined).

Normal fault (approximate); solid circle on hanging wall

Bedding (upright, tops known). 10

Bedding (overturned, tops known). 20

Cleavage 50

Mineral lineation. 30

Syncline (upright, overturned).

Anticline (upright).

Glacial striae; direction of ice movement undetermined.

Symbol Legend Sample of legend<ws#>.txt:

```
SYMBOLS NONE
AP 'LINESET GSC'
AP 'TEXTSET GSC'
AP 'MARKERSET of3961'
SET SYMDESC_FONT 'Triumvirate Italic'
SET OFFSET_UNITS mm
SYMDESC Geological contact (defined, approximate)
LINE CURVE1 21 111 55
LINE CURVE1 20 1 58

SYMDESC Limit of fieldwork, 2000
LINE CURVE1 149 1 111

SYMDESC Form lines
COVER SURROUND\FORM ARCS 806

SYMDESC D!sub;1P!bak; thrust fault (defined, approximate);
SYMDESC teeth on hanging wall
LINE CURVE1 189 60 111
LINE CURVE1 100 1 52

SYMDESC Oblique-slip fault (defined)
LINE LINE1 825 1 111

SYMDESC Normal fault (approximate); solid circle on hanging wall
LINE LINE1 45 1 111

SYMDESC Bedding (upright, tops known)
MARKER 373 # # 10

SYMDESC Bedding (overturned, tops known)
MARKER 288 # 0.75 20

SYMDESC Cleavage
MARKER 11 # # 50

SYMDESC Mineral lineation
MARKER 127 # # 30 -2.26

SYMDESC Syncline (upright, overturned)
SET LEADER_GAP 0.03
AP 'LINESYMBOL 199; LINEPEN 0.010; LINEPUT 199'
LINE LINE1 # 111 1
SUBMARKER 16 0 843 #
SUBMARKER 6 0 847 #

SYMDESC Anticline (upright)
AP 'LINESYMBOL 199; LINEPEN 0.010; LINEPUT 199'
LINE LINE1 # 111 1
SUBMARKER 11 0 841 #

SYMDESC Glacial striae; direction of ice movement undetermined
MARKER 159 # # #

END
```

LOCATION MAP

- If area of coverage is less than 1.5 mm square, then a dot must be used
- If area of coverage is greater than 1.5 mm square, then the neatline cover must be used
- Dot colour must be red on both A-series maps and Open Files
- Position of the location map should be just below the lower left corner of the map border below the copies of note whenever possible
- Latitude, longitude and Arctic Circle lines are no longer required
- Size should be 2.404 inches wide by 1.945 inches high
- Colour specifications are as follows:

Water fill on colour version	20% cyan
Water fill on black & white version	10% black
Neatline fill on colour version	40% magenta & yellow
Neatline fill on black & white version	20% black
Dot on colour version	Solid magenta & yellow
Dot on black & white version	Solid black

- Language (which corresponds to language of map) of note (6 pt Triumvirate) options are as follows:

E (English only)	LOCATION MAP
F (French only)	CARTE DE LOCALISATION
EF (English first then French)	LOCATION MAP - CARTE DE LOCALISATION
FE (French first then English)	CARTE DE LOCALISATION - LOCATION MAP

Samples:

LOCATION MAP

LOCATION MAP - CARTE DE LOCALISATION

CARTE DE LOCALISATION

Procedure

- The location map is plotted using the LOCATIONMAP command in ArcPlot

LOCATIONMAP <UL | CL | LL | UC | CC | LC | UR | CR | LR> <page_x> <page_y> <longitude_of_dot> <latitude_of_dot>
         {dot_colour} {GRIDON | GRIDOFF} {E | F | EF | FE} {COLOUR | BW}
LOCATIONMAP <UL | CL | LL | UC | CC | LC | UR | CR | LR> <page_x> <page_y> <neatline_cover> {GRIDOFF | GRIDON}
         {EF | FE | E | F} {COLOUR | BW}

<UL | CL | LL | UC | CC | LC | UR | CR | LR> - two letter keyword specifying the position of the location map to be placed at the specified page coordinate.

UL-upper left	**UC**-upper center	**UR**-upper right
CL-center left	**CC**-center center	**CR**-center right
LL-lower left	**LC**-lower center	**LR**-lower right

<page_x> - x coordinate in page units (inches or centimetres).
<page_y> - y coordinate in page units (inches or centimetres).

<longitude_of_dot> - longitude center of map in decimal degree units (Western Hemisphere values must be negative)
<latitude_of_dot> - latitude center of map in decimal degree units

{dot_colour} - any valid colour name that is recognized by ArcPlot. Default is red.

<neatline_cover> - cover name, comprising of only the neatline of the map that has polygon topology and is in the same coordinate projection as the location map. The neatline cover will be shaded red (CMYK = 0 40 40 0).

{GRIDOFF | GRIDON} - optional keyword specifying whether the latitude and longitude lines and the Arctic Circle are plotted. GRIDOFF is default.

{E | F | EF | FE} - optional keyword to specify language preference of location map
        E - only English text will be plotted. This is the default
        F - only French text will be plotted.
        EF - both English and French text will be plotted, with the English text first.
        FE - both English and French text will be plotted, with the French text first.

{COLOUR | BW} - optional keyword to specify whether map is plotted in colour or black and white
        COLOUR - water fill is plotted 20% cyan and optional neatline fill is plotted 40% magenta and yellow.
        BW - water fill is plotted 10% black, optional neatline fill is plotted 20% black or dot is solid black.

MAGNETIC DECLINATION

- Magnetic declination is the angle between the direction of the magnetic and geographic meridians.
- It is shown on maps to help the user determine the direction of true North.
- All magnetic declinations are approximate.
- Magnetic declination is calculated using the year, latitude, and longitude for all four corners and the center of the map area
- Magnetic declination and annual change at the center of the map will be taken as the MEAN for the area
- For readings use corners of the map with the greatest diagonal difference in declination
- The standard abbreviation of the word 'Ouest' is W (derived from the english west) and not 'O' (derived from the French)
- The annual change is the expected variation in magnetic declination from one year to the next
- If the direction of annual change is the same as the direction of the magnetic declination, the declination is numerically increasing, if the directions are opposite, the declination is numerically decreasing

Magnetic Declination	Annual Change	Numerical Direction
W	W	increasing
W	E	decreasing

- The magnetic declination is calculated using the Magnetic Information Retrieval Program (MIRP) program installed on workstations
    - If Magnetic Declination is not present on workstation, contact deverett@nrcan.gc.ca

1. Execute the Magnetic Declination program on the workstation.
2. Choose between computing declination or all components. (enter **d**)
3. Choose between using CGRF or IGRF standards. (enter **cgrf**)
4. Then enter the year required, latitude and longitude for each of the four corners and center of the map area.
    - Latitude and longitude can be entered as decimal degrees, degrees & decimal minutes or degrees, minutes, seconds.
    - A space or comma must be entered between the degree, minute, and second values.
    - Longitude is taken as positive west.
    - Latitude, Longitude and Declination are output as degrees and minutes E or W.
    - Annual Change is output in minutes per year E or W.
    - MIRP will indicate when the proximity note is required.
5. Type end when completed each of the four corners (NE, SE, NW, SW) and center of the map.
6. Add above information to the metadata of the Cartographic Digital Standards.

For proper wording of magnetic declination note, see the Credit Note section of this document.

NATMAP LOGO

- Position of the logo should be 6 mm above the map border justified along the right edge

Samples:

NATMAP
CARTNAT
Canada's National Geoscience Mapping Program
Le Programme national de cartographie géoscientifique du Canada

CARTNAT
NATMAP
Le Programme national de cartographie géoscientifique du Canada
Canada's National Geoscience Mapping Program

Procedure
- The NATMAP crest is plotted using the NATMAP command in ArcPlot

NATMAP <page_x> <page_y> {E | F} {scale_factor}
NATMAP BORDER <map_x> <map_y> {E | F} {scale_factor}

    <page_x> - x coordinate in page units (inches or centimetres) to specify the placement of the lower-center (LC) position of the logo.
    <page_y> - y coordinate in page units (inches or centimetres) to specify the placement of the lower-center (LC) position of the logo.

    {E | F} - optional keyword to specify in which language the logo will appear.
        E - English. This is the default.
        F - French

    { scale_factor } - optional numeric value to change the size of the logo. 1 being the default which will plot the main title of the logo in 12 points. A scale factor of 2 will plot the logo twice the size. Any real or integer value is valid.

    BORDER - keyword stating that the lower center position of the NATMAP logo will be placed 6mm above the specified map coordinate

    <map_x> - x coordinate in map units.
    <map_y> - y coordinate in map units.

NRCAN LOGO

- For maps smaller than 36" x 48", the size of the wordmark should be 10 point
- For maps larger than 36" x 48", the size of the wordmark should be 12 point
- The flag in the logo should be red for both A-Series and Open Files
- Position of the logo should be 6 mm above the left corner of the map border unless there is other information along the left side of the map, then the logo is justified along the left edge of the information

Sample:

Natural Resources   Ressources naturelles
Canada   Canada

Procedure

- The NRCan logo is plotted using the NRLOGO command in ArcPlot

NRLOGO <UL | CL | LL | UC | CC | LC | UR | CR | LR> <page_x> <page_y> {E | F} {R | K} {point_size}
NRLOGO BORDER <map_x> <map_y> {E | F} {R | K} {point_size}

<UL | CL | LL | UC | CC | LC | UR | CR | LR> - two letter keyword specifying the position of the NRCan logo to be placed at the specified page coordinate.

UL-upper left	**UC**-upper center	**UR**-upper right
CL-center left	**CC**-center center	**CR**-center right
LL-lower left	**LC**-lower center	**LR**-lower right

<page_x> - x coordinate in page units (inches or centimetres).
<page_y> - y coordinate in page units (inches or centimetres).

BORDER - keyword stating that the lower center position of the NRCan logo will be placed 6mm above the specified map coordinate

<map_x> - x coordinate in map units.
<map_y> - y coordinate in map units.

{E | F} - optional keyword to specify which language will appear first on the logo
- **E** - English on left, French on right. This is the default.
- **F** - French on left, English on right.

{R | K} - optional keyword for specifying the colour of the flag
- **R** - Colour of flag is red (CMYK 0 100 100 0). This is the default.
- **K** - Colour of flag is black.

{point_size} - optional numeric value specifying the point size of the text in the NRCan logo. Default value is 10 points.

Note:

- If no position or coordinate arguments are specified, the logo will be positioned 0.75" from the upper left trim mark
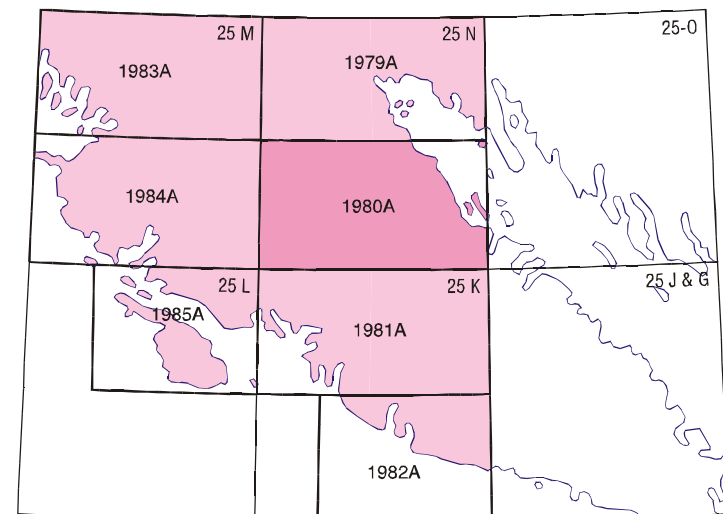
NTS INDEX

- Position should be just below the lower right corner of the map border whenever possible
- If your map area is adjacent to a coastline or large body of water then the coastline/body excluding the rivers MUST be included in the index
  - Magenta fill will NOT appear inside large bodies of water
- Any previously published GSC maps at the same scale and same category must also be shown
  - To check for any previously published adjoining maps use the GEOSCAN web site to look up the map
    - In the NTS search field, fill out the surrounding NTS sheets and the scale.
    - Go display search and list OF and A-series number that match NTS sheets
- Colour specifications are as follows:
  - Main map on colour version   40% magenta
  - Main map on black & white version   30% black
  - Adjoining maps on colour version   20% magenta
  - Adjoining maps on black & white version   10% black
- Line weight specifications are as follows:
  - NTS outlines   Black, 0.007 inch cut or GSC linesymbol 807
  - Map neatlines   Black, 0.012 inch cut or GSC linesymbol 812
  - Shorelines   Cyan, 0.005 inch cut or GSC linesymbol 890
- All NTS numbers should be 7 point, Triumvirate Condensed, right justified in upper right corner of nts outline
- When labeling the NTS sheets those with 'I' or 'O' must have a hyphen between the number and letter
- All GSC map numbers should be 7 point, Triumvirate, centered in map neatline with no space between the map type and map number
- NTS index note (5 point, Triumvirate, centered under NTS index map) options are as follows:

NATIONAL TOPOGRAPHIC SYSTEM REFERENCE	English only
NATIONAL TOPOGRAPHIC SYSTEM REFERENCE AND INDEX TO ADJOINING GEOLOGICAL SURVEY OF CANADA MAPS	English only with Adjoining sheets
SYSTÈME NATIONAL DE RÉFÉRENCE CARTOGRAPHIQUE	French only
SYSTÈME NATIONAL DE RÉFÉRENCE CARTOGRAPHIQUE ET INDEX DES CARTES ATTENANTES PUBLIÉES PAR LA COMMISSION GÉOLOGIQUE DU CANADA	French only with Adjoining sheets
NATIONAL TOPOGRAPHIC SYSTEM REFERENCE / SYSTÈME NATIONAL DE RÉFÉRENCE CARTOGRAPHIQUE	Bilingual, English first
NATIONAL TOPOGRAPHIC SYSTEM REFERENCE AND INDEX TO ADJOINING GEOLOGICAL SURVEY OF CANADA MAPS / SYSTÈME NATIONAL DE RÉFÉRENCE CARTOGRAPHIQUE ET INDEX DES CARTES ATTENANTES PUBLIÉES PAR LA COMMISSION GÉOLOGIQUE DU CANADA	Bilingual with Adjoining sheets, English first
SYSTÈME NATIONAL DE RÉFÉRENCE CARTOGRAPHIQUE / NATIONAL TOPOGRAPHIC SYSTEM REFERENCE	Bilingual, French first
SYSTÈME NATIONAL DE RÉFÉRENCE CARTOGRAPHIQUE ET INDEX DES CARTES ATTENANTES PUBLIÉES PAR LA COMMISSION GÉOLOGIQUE DU CANADA / NATIONAL TOPOGRAPHIC SYSTEM REFERENCE AND INDEX TO ADJOINING GEOLOGICAL SURVEY OF CANADA MAPS	Bilingual with Adjoining sheets, French first

Samples:
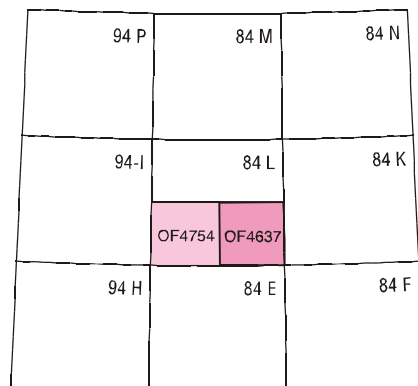
NATIONAL TOPOGRAPHIC SYSTEM REFERENCE AND INDEX
TO ADJOINING GEOLOGICAL SURVEY OF CANADA MAPS

NATIONAL TOPOGRAPHIC SYSTEM REFERENCE AND INDEX
TO ADJOINING GEOLOGICAL SURVEY OF CANADA MAPS

Procedure

- Create using the GEMS routine, Create NTS Index map, under the Tools menu
- The input field for name of NTS Index cover is automatically filled based on the map number. The name produced is NTS<map number>
- The 12 input fields for longitude and latitude are where the user enters the coordinates for the four corners of the index map area in degrees, minutes and seconds. Negative values must be entered for the western and southern hemispheres
- The number of columns and number of rows input fields are where the user enters how many equal divisions of longitude and latitude are required for dividing up the area into NTS sheets
- The input field for the height of the NTS map should be entered in centimeters. This states the final plotting size of the vertical dimension of the NTS Index map. The default size is 5.0 centimeters
- The projection of NTS Index map choice filed allows the user to choose between Tranverse Mercator and Lambert for the final projection of the NTS Index map
- The language preference choice fields allow the user to choose what language the NTS Index map note will appear
- If include adjoining sheet note is checked then the extra line of text stating that the Index depicts adjoining GSC map sheets will be added to the NTS Index map note
- If include generalized drainage is checked then a portion of a 1:5 000 000 hydrology coverage will be clipped and added to the NTS Index map

EDITS FOR COMPLETION:

- **The GEMS routine will prompt you to enter the NTS numbers and any GSC map numbers the user requires. It starts with the lower left NTS sheet and works across and up to the upper right NTS sheet**
- **Add labels and code the colour for any polygon shading needed**
- **Change code for any GSC map outlines from 807 to 812**
- **Make sure other line symbology is coded as per specifications listed above**
- **Make sure there is no colour fill in large bodies of water**

OPEN FILE STAMP

- Position of the Open File stamp should be placed in the lower right corner of the map centered one inch above the recommended citation if space is available

Samples:

```
┌─────────────────────────────────────────────┐
│  ┌────────────────────────┐                  │
│  │     OPEN FILE          │  Open files are products │
│  │  DOSSIER PUBLIC        │  that have not gone      │
│  │                        │  through the GSC formal  │
│  │       2732             │  publication process.    │
│  │                        │                          │
│  │ GEOLOGICAL SURVEY OF CANADA │  Les dossiers publics sont │
│  │ COMMISSION GÉOLOGIQUE DU CANADA │ des produits qui n'ont │
│  │       2001             │  pas été soumis au       │
│  └────────────────────────┘  processus officiel de   │
│                              publication de la CGC.   │
└─────────────────────────────────────────────┘
```

```
┌─────────────────────────────────────────────┐
│  ┌────────────────────────┐                  │
│  │     OPEN FILE          │  Open files are products │
│  │  DOSSIER PUBLIC        │  that have not gone      │
│  │                        │  through the GSC formal  │
│  │       2732             │  publication process.    │
│  │                        │                          │
│  │ GEOLOGICAL SURVEY OF CANADA │  Les dossiers publics sont │
│  │ COMMISSION GÉOLOGIQUE DU CANADA │ des produits qui n'ont │
│  │       2001             │  pas été soumis au       │
│  └────────────────────────┘  processus officiel de   │
│      SHEET 1 OF 2            publication de la CGC.   │
│      FEUILLET 1 DE 2                              │
└─────────────────────────────────────────────┘
```

Procedure
- The Open File stamp is plotted using the OPENFILE command in ArcPlot
- If the map is part of a series then the sheet options (**{sheet_number}** & **{total_sheets}**) should be used

OPENFILE <UL | CL | LL | UC | CC | LC | UR | CR | LR> <page_x> <page_y> <number> {E | F} {year} {sheet_number} {total_sheets}
OPENFILE {year}

> **<UL | CL | LL | UC | CC | LC | UR | CR | LR>** - two letter keyword specifying the position of the Open File stamp to be placed at the specified page coordinate.
> | | | |
> |---|---|---|
> | **UL**-upper left | **UC**-upper center | **UR**-upper right |
> | **CL**-center left | **CC**-center center | **CR**-center right |
> | **LL**-lower left | **LC**-lower center | **LR**-lower right |

> **<page_x>** - x coordinate in page units (inches or centimetres).
> **<page_y>** - y coordinate in page units (inches or centimetres).

> **<number>** - Open File number. Any combination of integers and/or alpha characters can be used.

> **{E | F}** - optional keyword to specify which language will appear first on the Open File stamp.
> > **E** - English on top, French on bottom. This is the default.
> > **F** - French on top, English on bottom.

> **{year}** - The current year is plotted by default. If plotted after CITATION command, the publication year will be used.
> **{sheet_number}** - The sheet number from a series of map sheets. Can only be used when specifying **{total_sheets}**.
> **{total_sheets}** - total number of sheets in the map series.

Note:
- If no position or coordinate arguments are specified, the stamp will be positioned centered 1.0" above the recommended citation
  - The CITATION command MUST be executed before the OPENFILE command in ArcPlot
- If no arguments are specified, values from metadata file will be used to create the open file stamp

PHOTOS

- If the author requests that photos are to be placed in the surround information of maps
  - All photos should have the same physical size (if possible)
  - A black 0.007" line should surround each photo
  - A caption should accompany each photo (e.g. Photo 1. *Caption…*) which should include a GSC catalogue number (if possible)
  - GSC marker symbol 575 should be used on the map to mark the location of the photograph with a photo number inside the lens (see sample below)
  - A description and symbol should appear in the legend of the map (see sample below)

Sample:

Location of field photograph with corresponding Figure number . . . .

POCKET TITLES

TITLE BLOCK
- Position of the title block should be LS 30 below the center of the pocket figure border
- Title MUST always begin with the word Figure, the number and a period (e.g. **Figure 7.**)
- All text should be 20 point, Triumvirate Bold, upper/lower case, left justified after figure number in title, line spacing 22
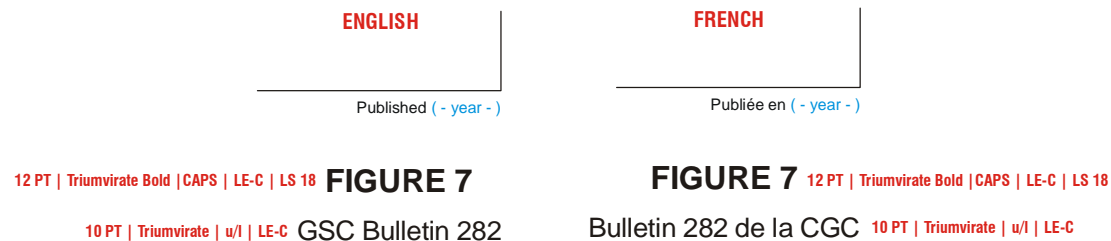
Sample:

Figure 7. Reflection seismic profiles showing locations of gas hydrate and free-gas accumulations, major sequence boundaries, large-scale faults, and structures in the Ivik–Mallik–Taglu area.

FOLDING TITLE
- The folding title is used on all pocket figures instead of a recommended citation
- Position of the folding title should be in the lower right corner of the map in line horizontally and vertically with the limit of work
- Figure text should be 12 point, Triumvirate Bold, CAPS, center justified, line spacing 18
- Bulletin text should be 10 point, Triumvirate, upper/lower case, center justified

Sample:

ENGLISH

Published (- year -)

12 PT | Triumvirate Bold |CAPS | LE-C | LS 18 **FIGURE 7**

10 PT | Triumvirate | u/l | LE-C GSC Bulletin 282

FRENCH

Publiée en (- year -)

FIGURE 7 12 PT | Triumvirate Bold |CAPS | LE-C | LS 18

Bulletin 282 de la CGC 10 PT | Triumvirate | u/l | LE-C

POLAR CONTINENTAL SHELF LOGO

- The logo should be black & white for all offset printed A-series and colour for all on-demand A-series and Open Files
- The EPS file of the Polar Continental Shelf logo must be in the current workspace
- Default size of the Polar Continental Shelf logo is 1 inch
- The new Polar Continental Shelf logo is available below for downloading
  - Download colour version
  - Download black & white version

Sample:

Procedure
- The Polar Continental Shelf logo is plotted using the EPS command in ArcPlot

EPS <eps_file> {x y}

> **<eps_file>** - specifies the name of the EPS (Encapsulated PostScript) file.

> **{x y}** - specifies the x y coordinates (inches or centimetres) in page units to anchor the lower-left corner of the EPS file. Separate the two coordinate values with a blank space.

Note: The bounding box of an EPS file can be determined by looking at the file header. EPS files are ASCII files and can usually be read with any text editor. Search for the string %%/BoundingBox:. The values are stored as printers points, where 72 points = 1 inch.

PRINTING COLOURS

- Make sure there is at least 30° between all colour screen angles (except yellow - 165) to prevent moiré pattern
- Screen angles should be stated on the CIP Negative Request Form
- Use the Dotte II to check the percentages of screens on negatives
- Use a Screen Angle Gauge to check the angle of screens on negatives

Colour Name	Colour Number	Screen Angle for 4 colour process	Screen Angle for 4+ colour process
Black Map	101	45°	45°
Chart Blue	114	-	37°
Drainage Blue	112	-	-
Contour Brown	130	-	-
Cyan	111	15°	75°
Pea Green	144	-	-
Chart Grey	109	-	52°
Magenta	125	75°	15°
Display Red	122	-	90°
Red "Williams" Pantone	032	-	-
Yellow	165	90°	45°

PROVINCIAL LOGOS

- Position of the logo should be 6 mm above the map border justified along the right edge
- The EPS file of the provincial logo must be in the current workspace
- The provincial logos are available below for downloading
  - Download Saskatchewan Industry and Resources logo
  - Download Saskatchewan Geological Survey logo
  - Download Manitoba Geological Survey logo
  - Download Manitoba Industry, Trade and Mines logo
  - Download Manitoba logo
  - Download Ontario logo

Samples:

Procedure
- The Provincial logos are plotted using the EPS command in ArcPlot

EPS <eps_file> {x y}

      <eps_file> - specifies the name of the EPS (Encapsulated PostScript) file.

      {x y} - specifies the x y coordinates (inches or centimetres) in page units to anchor the lower-left corner of the EPS file. Separate the two coordinate values with a blank space.

Note: The bounding box of an EPS file can be determined by looking at the file header. EPS files are ASCII files and can usually be read with any text editor. Search for the string %%/BoundingBox:. The values are stored as printers points, where 72 points = 1 inch.

RECOMMENDED CITATION

- Position of the recommended citation is in the lower right corner of the map sheet lined up with the bottom of the Canada word mark and the right edge of the legend
- Maximum width of the citation should be 3.5 inches
- All text should be Triumvirate for both A-series and Open Files
- Recommended citation title should be 8 point, Triumvirate, upper/lower case, left justified on column, line spacing 10
- Authors names should be 8 point, Triumvirate Bold, upper/lower case, left justified on column, line spacing 10
- Published year should be 8 point, Triumvirate, upper/lower case, left justified on column, line spacing 9.2
- Citation text should be 8 point, Triumvirate, upper/lower case, left justified, indented 2 picas, line spacing 9.2
- Line spacing 36 should be used between recommended citations
- In the French recommended citation there should be a space before and after the semicolon
- A period MUST exist at the end of the recommended citation
- If multiple authors are listed in the citation, the word and or et should exist before the last author. If three or more authors are listed, a comma MUST exist before the word and for English text only
- When a separate sheet with a common legend, references, descriptive notes or figures accompany one or more A-series maps, there MUST be a note added above the recommended citation, stating the accompanying A-series map numbers. If three or more A-series map numbers are listed, a comma MUST be added before the word and for English text only
- The note above the recommended citation should be 10 point, Triumvirate, upper/lower case, left justified on column, line spacing 18
- When a Open File has multiple sheets, there should be a note added above the recommended citation that states the sheet number and description (Geology, Surficial geology, Legend, Cross-sections, etc.)
- The multiple sheet note should be 8 point, Triumvirate, upper/lower case, left justified on column, line spacing 18

Procedure
- The recommended citation can be plotted using the CITATION command in ArcPlot, using metadata to construct the text strings

CITATION {page_x} {page_y} {DRAFT} {note}

{page_x} – x coordinate in page units (inches or centimetres) to specify the placement of the lower-right (LR) corner of the citation

{page_y} – y coordinate in page units (inches or centimetres) to specify the placement of the lower-right (LR) corner of the citation

{DRAFT} – optional keyword indicating that organization names and map numbers will not appear in the recommended citation. The word "Draft/Ébauche" will be used in its place. If this option does not apply and you are specifying a note (next argument), omit the keyword DRAFT.

{note} – Phrase to substitute the note that would otherwise appear above the recommended citation

Notes:
- Text will automatically be positioned to fit the maximum width of the note, which is 3.5 inches
- If no page coordinates are entered or they are skipped, the recommended citation will be plotted 0.75 inches from the lower-right trim mark
- The entry for the note option MUST be surrounded by single quotes if spaces exist
- This command is valid in GEMS version 2.1 (Patch Jan 29, 2003) and complies to the Cartographic Digital Standards (CDS) version 3.1
- This command requires the execution of the SC command (Arc) in order to plot accented characters correctly depending on hardware type. For ease, the SC command can be incorporated in the Arc/Info startup file (.arc on UNIX, arc.aml on NT)
- Text for the recommended citation is obtained from entries in the "Manage Metadata" menu
- All information should be entered in upper and lower case characters as it would appear in the recommended citation
- The language of the text is based on the language and bilingual settings in the "Manage Metadata" menu
- All information entered for bilingual maps MUST be separated by a forward slash with no spaces on either side
- When the map is jointly published with another organization/agency, the name of the organization/agency and their map number must be entered as it would appear in the recommended citation in the Other Map Numbers menu, part of the Manage Metadata menu
- If map is part of a series, all information (sheet number, associated workspaces, common legend) must be entered so the CITATION command can derive which notes to plot above the recommended citation

Field in Manage Metadata menu	Required by CITATION command	Notes
Year Published	Yes	Used in the recommended citation
Map Number	Yes	Only enter the map number, not the type (a or of) or sheet indicator (underscore number)
Organization	No	Other organization's name as it would appear in the recommended citation
Citation Map Number	No	Other organization's map number as it would appear in the recommended citation
Map Type	Yes	Click right mouse button to select from default list
Feature	Yes	Click right mouse button to select from default list
Sub-Feature	No	
Map Title (line 1)	Yes	Enter as it would appear in the recommended citation
Map Title (lines 2 & 3)	No	Enter as it would appear in the recommended citation
District / Region	No	Enter as it would appear in the recommended citation
Provinces	No	Click right mouse button to select from default list
Map Scale	Yes	Used to plot the scale bar with default settings
Primary authors	Yes	Create a list, the CITATION command will add commas and the words and or et
Sheet number	Yes	If map is part of a series

Samples:

A legend accompanies this map
A legend and figures accompany this map
Descriptive notes, references, and figures accompany this map

Examples on one or more A-series maps where legend, references, descriptive notes or figures exist on a separate common sheet

Legend to accompany map ####A
Legend and figures to accompany maps ####A and ####A
Descriptive notes, references, and figures to accompany maps ####A,
####A, and ####A **8 PT | Triumvirate | u/l | LE-L | LS 18 to Recommended Citation**

Examples on separate common sheet where legend, references, descriptive notes or figures accompany one or more A-series maps

Note: In a map series for Open Files only, this note should be added

Sheet 3 of 4, Surficial geology **8 PT | Triumvirate | u/l | LE-L | LS 18 to Recommended Citation**

Note: 8 PT on LS 9.2 is used to keep the same line spacing proportion as the 7 PT on LS 8 used for references

Recommended citation: **8 PT | Triumvirate | u/l | LE-L | LS 10**
Doiron, A. and Paradis, S. **8 PT | Triumvirate Bold | u/l | LE-L | LS 10**
1999: Surficial geology, Serpentine Lake, New Brunswick; Geological **8 PT | Triumvirate | u/l | LE-L | LS 9.2**
Survey of Canada, Map 1976A, scale 1:50 000. **8 PT | Triumvirate | u/l | LE-L | LS 36 to next citation**

Note: The recommended citation is left justified, indented 2 picas and should not be wider than 3.5 inches

2 picas

Une légende accompagne la cette carte
Une légende et des figures accompagnent cette carte
Des notes descriptives, des références et des figures accompagnent
cette carte

Examples on one or more A-series maps where legend, references, descriptive notes or figures exist on a separate common sheet

Cette légende accompagne la carte ####A
Cette légende et des figures accompagnent les cartes ####A et ####A
Des notes descriptives, des références et des figures accompagnent
les cartes ####A, ####A, et ####A **8 PT | Triumvirate | u/l | LE-L | LS 18 to Recommended Citation**

Examples on separate common sheet where legend, references, descriptive notes or figures accompany one or more A-series maps

Feuillet 3 de 4, Géologie des formations en surface
euillet 3 de 4, Géologie des formations en surface **8 PT | Triumvirate | u/l | LE-L | LS 18 to Recommended Citation**

Notation bibliographique conseillée : **8 PT | Triumvirate | u/l | LE-L | LS 10**
Doiron, A. et Paradis, S. **8 PT | Triumvirate Bold | u/l | LE-L | LS 10**
Note: Space before colon
1999 : Géologie des formations en surface, Serpentine Lake, **8 PT | Triumvirate | u/l | LE-L | LS 9.2**
Nouveau-Brunswick; Commission géologique du Canada,
Carte 1976A, échelle 1/50 000.

REFERENCES

- Column width should be 5 inches with a 0.5 inch gap between multiple columns
- All text should be Triumvirate for both A-series and Open Files
- Titles (such as REFERENCES) should be 10 point, capital case, centered on column, line spacing 22
- All titles should have line spacing 36 from the previous map feature
- Authors names should be 7 point, Triumvirate Bold, upper/lower case, left justified on column, line spacing 10
- Published year should be 7 point, Triumvirate, upper/lower case, left justified on column, line spacing 8
- Reference text should be 7 point, Triumvirate, upper/lower case, left/right justified, indented 3 picas, line spacing 8
- Line spacing 14 should be used between references
- Multiple references that exist for the same author are listed under the same author heading and have line spacing 10
- When making reference to a document, the words in and also should be 7 point, Triumvirate Italic
- An En dash should be used when stating a range of page numbers (eg: p. 345–365)

Sample:

5 inch columns, 0.5 inch gap between multiple columns

LS 36 from previous map feature REFERENCES 10 PT | ATTriumvirate | CAPS | LE-C | LS 22

Brodaric, B. and Fyon, J.A. 7 PT | ATTriumvirate Bold | u/l | LE-L | LS 10

1989: OGS FIELDLOG: A Microcomputerbased Methodology to Store, Process and Display Maprelated data; Ontario Geological Survey, Open File Report 5709, 73p. **7 PT | ATTriumvirate | u/l | LE-J | LS 8 inside, LS 14 to next**

Note: Reference text is indented 3 picas and left/right justifed

Hanmer, S., Tella, S., Sandeman, H. A., Ryan, J.J., Hadlari, T., and Mills, A.

Note: When making reference to a document, the words in and also should be Triumvirate Italic

1999a: Proterozoic reworking in Western Churchill Province, Gibson Lake Cross Bay area, Northwest Territories (Kivalliq Region, Nunavut). Part 1: general geology; *in* Current Research 1999C, Geological Survey of Canada, p. 55–64. **7 PT | ATTriumvirate | u/l | LE-J | LS 10 to next**

3 picas

1999b: Proterozoic reworking in Western Churchill Province, Gibson Lake Cross Bay area, Northwest Territories (Kivalliq Region, Nunavut). Part 2: regional structural geology; *in* Current Research 1999C, Geological Survey of Canada, p. 65–75.

Note: Multiple references for the same author are listed under one heading and separated with LS 10

LeCheminant, A.N., Miller, A.R., and LeCheminant, G.M.

In press: Early Proterozoic alkaline igneous rocks, District of Keewatin, Canada: petrogenesis and mineralization; *in* Geochemistry and mineralization of Proterozoic Volcanic Suites; T.C. Pharaoh, R.D. Beckinsale, and Rickard (ed). Geological Society of London Special Publication, No.33, p. 219–240.
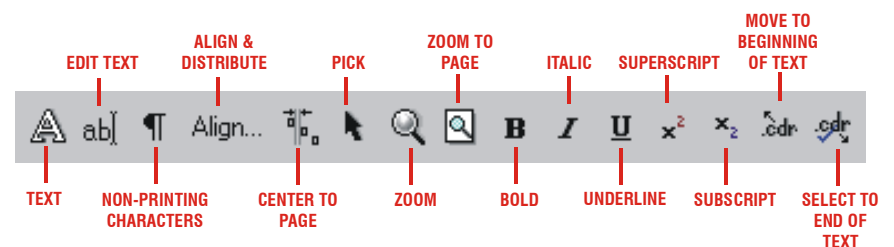
Procedure

- A procedure has been developed using CorelDraw to import a word processor file, edit and export an encapsulated postscript file that can be used in an ArcPlot AML
- All custom templates, font styles and toolbars are available to download as a zip file

Steps to create .EPS file
- Open author's text file in Microsoft Word or WordPerfect
  - Delete all blank lines and Save as an .RTF (imports easier into CorelDraw)
- Start CorelDraw, Click File, Click New from Template, Check CorelDraw templates, Choose CSSC Descriptive Notes & References category, Choose 1, 2 or 3 column template then Click Finish
- Click the TEXT tool and click in paragraph text box
- Click EDIT TEXT tool
  - Select IMPORT and import the .RTF file
  - Select OPTIONS and SELECT ALL
  - Select ATTriumvirate from the font list to ensure all text is the same font
  - Select 7 pt from the font size list to ensure all text is the same font size
  - Click OK to apply changes and exit the EDIT TEXT tool
- Select all text and set to font style 21.Reference, 7pt u/l (reference 7pt default indent)
- Zoom in to column width for a more comfortable working view
- Change author names by placing cursor on a line of text and selecting font style 20.Author, 7pt u/l bold (author 7pt bold). Text spacing is automatic with styles.
- Replace the space or spaces between the reference date colon and the reference text with a Tab (e.g. 1998a:[Tab]Proterozoic reworking in Western Canada)
- Delete extra line returns from each reference text to form one continuous indented paragraph
- Change the words in and also to ATTriumvirate Italic when making reference to a document
- Add En-dash when stating a range of page numbers (eg. p. 345–365)
- Press F4 key or Click Zoom to Page tool to zoom out to full image view
- Click PICK tool and adjust the paragraph text box length to be long enough so all text is viewable
- Reset page size to the same dimensions as the paragraph text box size
- Select paragraph text box and align to center of page by clicking the ALIGN tool
- Save as .CDR for future editing (if needed)
- Export as .EPS (extension .eps should be used)
  - Include header option should be off
  - Export text as text and include fonts
  - Floating Bounding Box option should be on
- Exit CorelDraw
- Convert .EPS file to UNIX format using CONVERTCRLF program so it will load into ArcInfo properly
  - Just drag and drop .eps file onto Convertcrlf icon in desktop workspace
  - Click on your .eps file from the input file list
  - Make sure Choose output format is on UNIX
  - Click OK to apply and click Close to exit
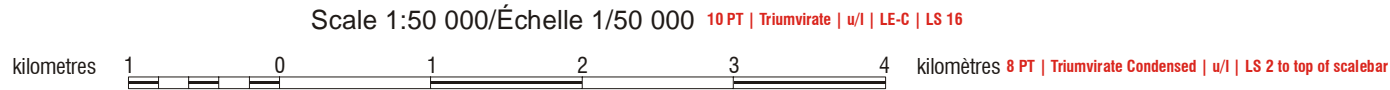- Use EPS command to plot in ArcPlot

COMMON TOOLS MENTIONED ABOVE

MOVE TO BEGINNING OF TEXT
EDIT TEXT
ALIGN & DISTRIBUTE
PICK
ZOOM TO PAGE
ITALIC
SUPERSCRIPT

TEXT
NON-PRINTING CHARACTERS
CENTER TO PAGE
ZOOM
BOLD
UNDERLINE
SUBSCRIPT
SELECT TO END OF TEXT

SCALE BAR

- For specific position and specs, see the TITLEBLOCK section of this document

Sample:

Scale 1:50 000/Échelle 1/50 000 **10 PT | Triumvirate | u/l | LE-C | LS 16**

kilometres   1   0   1   2   3   4   kilomètres **8 PT | Triumvirate Condensed | u/l | LS 2 to top of scalebar**

Procedure
- The scale bar is produced using the SCALEBAR command in ArcPlot

SCALEBAR <scale_denominator> {E | F} <page_x> <page_y>
SCALEBAR <scale_denominator> <divisions> <division_length> <subdivisions> {E | F} <page_x> <page_y>

      <scale_denominator> - the scale denominator of the published map

      <divisions> - user defined scale bar parameter specifying the total number of divisions including the whole division to the left of 0

      <division_length> - user defined scale bar parameter specifying the length of each division in metres

      <subdivisions> - user defined scale bar parameter specifying the number of subdivisions of the whole division to the left of 0

      {E | F} - optional keyword to specify which language will appear first in the scale bar title
          E - English on left, French on right. This is the default.
          F - French on left, English on right

      <page_x> - optional x coordinate in page units (inches or centimetres) to specify the placement of the lower-center (LC) position of the scale bar title
      <page_y> - optional y coordinate in page units (inches or centimetres) to specify the placement of the lower-center (LC) position of the scale bar title

Notes:
- If page coordinates are not specified, the coordinates from the last MOVE command or the current coordinate position of the cursor (not the cross hairs on the graphics display screen) will be used
- When specifying user defined scale bar parameters, all three arguments MUST be entered
- The division to the right of 0 will always be blank (white)
- For scales larger than 1:40 000 the units above the scale bar will be plotted in metres, otherwise they will be in kilometers
- After the scale bar has been plotted, two global variables are assigned coordinates for placement of the projection note text under the scale bar. The variable .x is the x coordinate of the center of the scale bar and the variable .y is the y coordinate less 0.25 inches from the bottom of the scale bar. These variables can be used as the baseline for placing text in page units with an ArcPlot Aml.

TITLE BLOCK

- Position of the title block should be 8 mm below the center of the map border
- For point size and line spacing of each element of the title block, refer to the sample below
- If the map has multiple sheets the 'Sheet # of #' line is NOT shown in the title block
- Guidelines for map titles
  - Full or partial NTS sheet (same scale):
    - Use the same title as the NTS sheet
  - Two adjoining NTS sheets:
    - The title of the map should include titles of each NTS sheet with the west sheet being the first part of the title and the east sheet the remainder of the title, separated by an en dash with no space on either side
    - If the sheets are north and south, the northern sheet will be the first part of the title
    - If there are more than two NTS sheets the title should be discussed with and approved by editorial
  - Full and partial adjoining NTS sheets:
    - The title should include titles of each NTS sheet with the name of the dominant sheet being the first part of the title and the partial sheet second, separated by an en dash with no space on either side
  - Enlarged or reduced NTS sheets:
    - The title should reflect the geographic region of the area but should not use the name of an existing NTS sheet
- Map projection notes
  - The position of the projection note is LS 18 from the bottom of the scale bar to the base of the first line of text in the projection note
  - Text should be 7 point, Universe, upper/lower case, center justified, line spacing 10
  - The type of projection should be indicated on all map projection notes
  - Other required components of the map projection note are stated in the following chart:

Projection Type	Central Meridian	Scale Factor	Standard Parallels	Datum	Copyright
Universal Transverse Mercator	No	No	No	Yes	Yes
Transverse Mercator	Yes	Yes	No	Yes	Yes
Lambert Conformal Conic	No	No	Yes	Yes	Yes

- The scale factor for map scales less than 1:250 000 will have a value of 0.9996, otherwise the value is 0.9994
- The spheroid used defines the North American Datum
  - Spheriod CLARKE1866   - North American Datum 1927
  - Spheriod GRS80   - North American Datum 1983
- The current copyright note should appear as:
  - English - © Her Majesty the Queen in Right of Canada (-year-)
  - French - © Sa Majesté la Reine du chef du Canada (-year-)

Sample:

8 mm

OPEN FILE 3851

GEOLOGY

PARTS OF AKUNAK BAY AREA

KIVALLIQ REGION

NUNAVUT

Scale 1:50 000/Échelle 1/50 000

kilometres 1   0   1   2   3   4 kilomètres

Universal Tranverse Mercator Projection
North American Datum 1983
© Her Majesty the Queen in Right of Canada 2000

Projection transverse universelle de Mercator
Système de référence géodésique nord-américain, 1983
© Sa Majesté la Reine du chef du Canada 2000

Lambert Conformal Conic Projection
Standard Parallels 49°N and 77°N
North American Datum 1927
© Her Majesty the Queen in Right of Canada 2000

Projection conique conforme de Lambert
Parallèles d'échelle conservée : 49° N et 77° N
Système de référence géodésique nord-américain, 1927
© Sa Majesté la Reine du chef du Canada 2000

MAP/CARTE 1977A

SURFICIAL GEOLOGY/GÉOLOGIE DES FORMATIONS EN SURFACE

BIG BALD MOUNTAIN–SEVOGLE

NEW BRUNSWICK/NOUVEAU-BRUNSWICK

Scale 1:50 000/Échelle 1/50 000

kilometres 1   0   1   2   3   4 kilomètres

Universal Tranverse Mercator Projection
North American Datum 1983
© Her Majesty the Queen in Right of Canada 2000

Projection transverse universelle de Mercator
Système de référence géodésique nord-américain, 1983
© Sa Majesté la Reine du chef du Canada 2000

GSC MAP 1968A

MEM MAP A-98-2

SEM MAP 258a-7

GEOLOGY

NATMAP SHIELD MARGIN PROJECT AREA (FLIN FLON BELT)

MANITOBA / SASKATCHEWAN

Scale 1:100 000/Échelle 1/100 000

kilometres   1   0   1   2   3   4   kilomètres

Universal Tranverse Mercator Projection | Projection transverse universelle de Mercator
North American Datum 1983 | Système de référence géodésique nord-américain, 1983
© Her Majesty the Queen in Right of Canada 2000 | © Sa Majesté la Reine du chef du Canada 2000

DRAFT

GEOLOGY

PARTS OF AKUNAK BAY AREA

KIVALLIQ REGION

NUNAVUT

Procedure

- The title block is produced using the TITLEBLOCK command in ArcPlot

TITLEBLOCK <page_x> <page_y> {DRAFT} {NOSCALEBAR}
TITLEBLOCK BORDER <map_x> <map_y> {DRAFT} {NOSCALEBAR}

    <page_x> - x coordinate in page units (inches or centimetres) to specify the placement of the lower-center (LC) position of the first line of text in the title block
    <page_y> - y coordinate in page units (inches or centimetres) to specify the placement of the lower-center (LC) position of the first line of text in the title block

    BORDER - keyword stating that the lower-center position of the first line of text in the title block will be placed 8mm below the specified map coordinates

    <map_x> - x coordinate in map units.
    <map_y> - y coordinate in map units.

    DRAFT – keyword indicating that no map numbers, GSC or other organization, will appear in the titleblock. Instead the word DRAFT will be in its place

    NOSCALEBAR – keyword indication that scale bar and projection note will not be plotted as part of the title block

Notes:

- This command is valid in GEMS version 2.1 (patch Jan 29, 2003) or later
- The command adheres to the Cartographic Digital Standards (CDS) version 3.1
- This command requires the execution of the SC command (Arc) in order to plot accented characters correctly depending on hardware type
  For ease, the SC command can be incorporated in the ArcInfo startup file (.arc on UNIX, arc.aml on NT)
- Text plotted as part of the title block is obtained from entries in the "Manage Metadata" menu
- All information should be entered in upper and lower case characters, as it would appear in the recommended citation. The TITLEBLOCK command will convert characters to upper case where required
- When the map is jointly published with another organization/agency, their map number must be entered as it would appear, in the Manage Metadata menu. The GSC map number will have GSC added to the beginning of the map number, and be plotted before other organization's map numbers
- All projection information required by the TITLEBLOCK command will be extracted from the projection parameters of the BOR<ws#> cover
- All information entered for bilingual maps MUST be separated by a forward slash with no spaces on either side
- More information and help can be found by pressing the HELP button on the Manage Metadata menu
- When entering Meta Data in GEMS it may be much easier to use the character combinations listed below instead of embedding typesetting codes
  - Hyphen – enter a single hyphen with no space on either side
  - En dash – enter two hyphens with no space on either side
  - Em dash – enter a single hyphen with a space on either side

Field in "Meta Data Information" menu	Required by TITLEBLOCK command	Special requirements or stipulations
Year Published	Yes	Used in the copyright note
Map Number	Yes	Only enter the map number, not the type (a or of) or sheet indicator (underscore number)
Title Map Number	No	Other organization's map number as it would appear in the title block
Map Type	Yes	Click right mouse button to select from default list
Feature	Yes	Click right mouse button to select from default list
Sub-Feature	No	
Map Title (line 1)	Yes	Enter as it would appear in the recommended citation
Map Title (lines 2 & 3)	No	Enter as it would appear in the recommended citation
District / Region	No	
Provinces	No	Click right mouse button to select from default list
Map Scale	Yes	Used to plot the scale bar with default settings

TRIM MARKS

- Trim marks are necessary for registering the negatives for offset printing and for trimming the map to the published size
- Trim marks are to be positioned 0.75 inches from each edge of the map image

Procedure

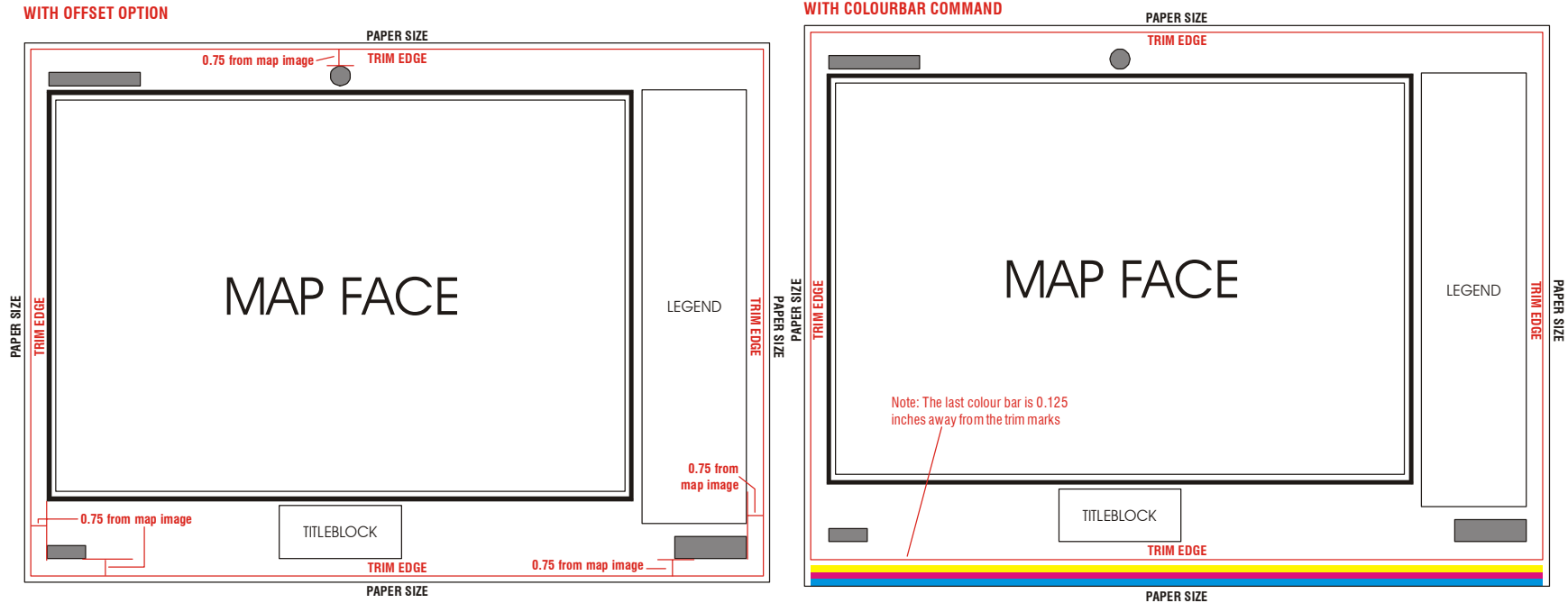- The colour bars can be plotted using the TRIMMARKS command in ArcPlot

TRIMMARKS {OFFSET} {colour… colour}

> **{OFFSET}** – keyword stating that the trim marks will be placed 0.5 inches in from page size limits.

> **{colour … colour}** - any number of valid ARC/INFO colour names to be plotted. Only those colours listed will be plotted as trim marks. When no colours are specified, trim marks are plotted in cyan, magenta, yellow and blackx

Note:

- Quarter inch trim marks are placed on the inside corners of the page size
- When issued only once after the COLOURBAR command, trim marks are plotted 0.125 inches away from the last colour bar
- When placing trim marks, the page size should be adjusted to be 0.75 inches away from all map images. Any objects positioned with explicit page coordinates will also have to be adjusted
- OFFSET keyword is not needed if the COLOURBAR command was executed before the TRIMMARKS command in ArcPlot

WITH OFFSET OPTION

PAPER SIZE

0.75 from map image — TRIM EDGE

PAPER SIZE | TRIM EDGE

MAP FACE

LEGEND

TRIM EDGE | PAPER SIZE

0.75 from map image

0.75 from map image

TITLEBLOCK

TRIM EDGE

0.75 from map image

PAPER SIZE

WITH COLOURBAR COMMAND

PAPER SIZE

TRIM EDGE

PAPER SIZE | TRIM EDGE

MAP FACE

LEGEND

TRIM EDGE | PAPER SIZE

Note: The last colour bar is 0.125 inches away from the trim marks

TITLEBLOCK

TRIM EDGE

PAPER SIZE

APPENDIX OF CHANGES

10/04/2003   - Modified recommended citation note about accompanying sheets to reflect it's contents

11/04/2003   - Changed bedrock and surficial legend samples to include periods at the end of each description and note
              - Changed bedrock and surficial legend samples to include the word unit(s) before any unit letters inside brackets