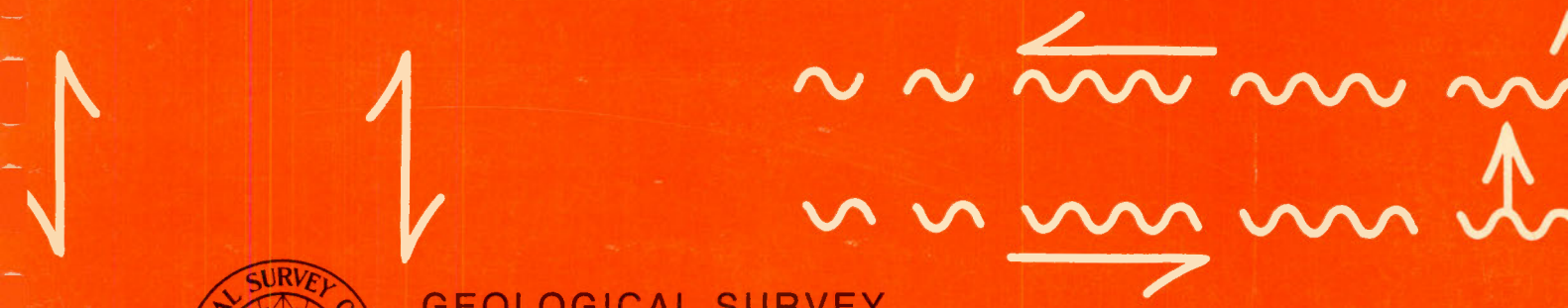

GEOLOGICAL SURVEY

OF CANADA

STANDARDS AND SPECIFICATIONS FOR THE PREPARATION OF GEOLOGICAL MAPS

DEPARTMENT OF ENERGY, MINES AND RESOURCES

GEOLOGICAL SURVEY

OF CANADA

STANDARDS AND SPECIFICATIONS FOR THE PREPARATION OF GEOLOGICAL MAPS

Designed and compiled by
P. Debain
with the assistance of
G. J. Barbary
B. G. Hill
G. H. Lavigne
and the late
M. Bernard

DEPARTMENT OF ENERGY, MINES AND RESOURCES

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Ottawa, 1972

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23387-6156-31

FOREWORD

The purpose of this manual is to standardize the cartographic preparation of Geological Survey of Canada maps in the common range of scales, e.g.1:50,000, 1:250,000, 1:500,000 and 1:1,000,000. In the field of large and small scale thematic maps it is to be used in a more general manner. It is designed primarily for internal use but may have some application as a guide for other organizations. The list of geological symbols used has been developed over a period of twenty years since the first attempt to standardization took place and reflects many changes, but as no list can be regarded as exhaustive, further changes can be expected periodically.

The specifications printed in red are for use of our own cartographic staff to assist in the choosing of type styles and sizes, stencils and line weights for scribing. All dimensions are at publishing scale.

The manual has been prepared by P. Debain with the able assistance of G. J. Barbary, B. G. Hill, G. H. Lavigne and the late M. Bernard and reflects an intimate knowledge of the problems encountered in geological cartography. This manual will expedite the preparation of geological maps and also has some application in the field of preparing illustrations. It is hoped that it will be helpful to users beyond the Geological Survey.

C. E. McNeil,
Superintendent of Cartography.

Ottawa, 1971.

CONTENTS

FINAL MAP

All cutter sizes in thousandths of an inch, other measurements in hundredths or tenths

All type measurements are in points

TITLE

English map

.3"

Helvetica Roman 10pt. MAP 1247A

12 GEOLOGY 18pt.

24 **SOUTHERN ELLESMERE** 32

Helvetica Bold

24 **AND NORTH KENT ISLANDS** 30

Helvetica Roman 14 DISTRICT OF FRANKLIN 20

To be used when title is over 4" in length

4"

Stock 19a to 19f Scale

.3"

Helvetica Roman 10pt MAP 1137A

12 GEOLOGY 18pt.

Helvetica Bold 24 **BEAVERLODGE** 32

Trade Gothic Light C.C. 12 (East Half) * 16

Trade Gothic Light 10 WEST OF THIRD MERIDIAN 18

14 SASKATCHEWAN 22

.35"

Stock 19a to 19f Scale

.3"

Helvetica Roman 10pt. MAP 1100A

12 GROUNDWATER PROBABILITY 20pt.

Helvetica Bold 24 **VIRDEN** 32

Trade Gothic Light 10 WEST OF PRINCIPAL MERIDIAN 14

14 MANITOBA 22

.35"

Stock 19a to 19f Scale

* *When geological map is published in two halves, the same map name should apply to both halves. East half or west half should appear under the map name in the title*

TITLE

Bilingual map

.3"

Helvetica Roman 10pt. MAP 1038A CARTE

12 SURFICIAL GEOLOGY-GÉOLOGIE DES DÉPÔTS MEUBLES 18pt.

Helvetica Bold 24 **OTTAWA** 32

14 ONTARIO-QUÉBEC 18

.35"

Stock 19a to 19f Scale Échelle

Stock 135 99° 00′ .2" Cut 5-25-5-35-5

.3"

Helvetica Roman 10pt. MAP 31-1963 CARTE

Trade Gothic Light 10 PAPER 63-20 ÉTUDE 16pt.

12 GEOLOGY - GÉOLOGIE 20

Helvetica Bold 24 **MICHIKAMAU LAKE** 32

14 QUÉBEC-NEWFOUNDLAND 18

.35"

Stock 19a to 19f Scale 1:50,000

Miles 1 0 1 2 Miles

Metres 1000 0 1000 2000 3000 Metres

Universal Transverse Mercator Projection*

*Type of projection used should be indicated on each map

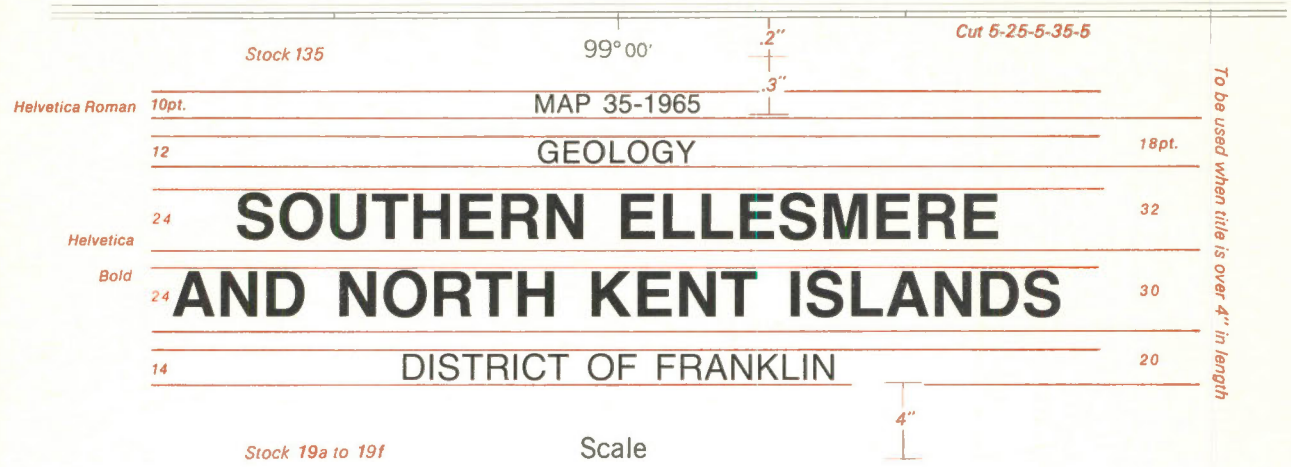
Note:

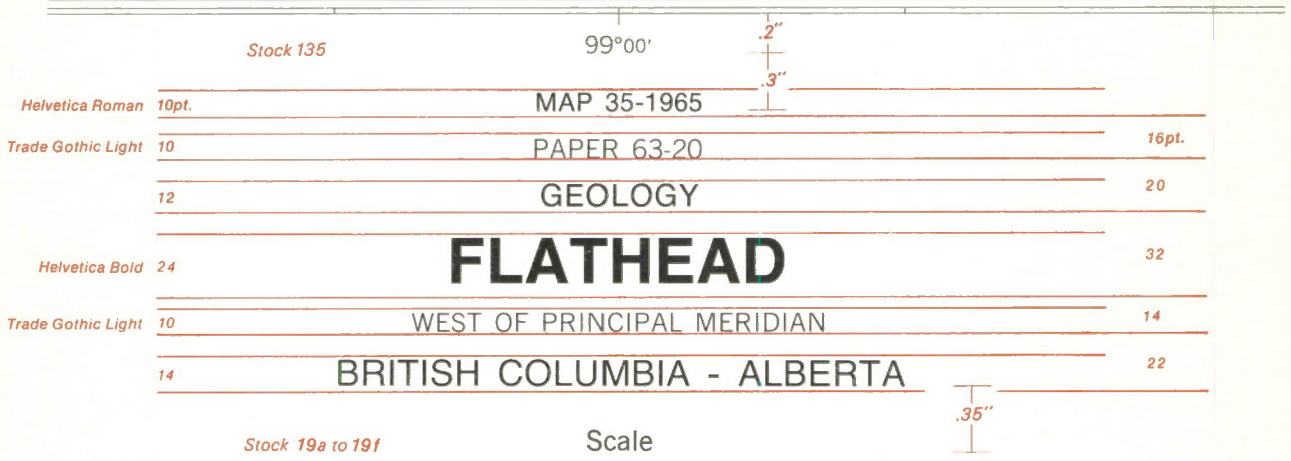
When two full N.T.S. sheets have been combined into one map and the names of these sheets are combined in the title they should be separated by a hyphen.

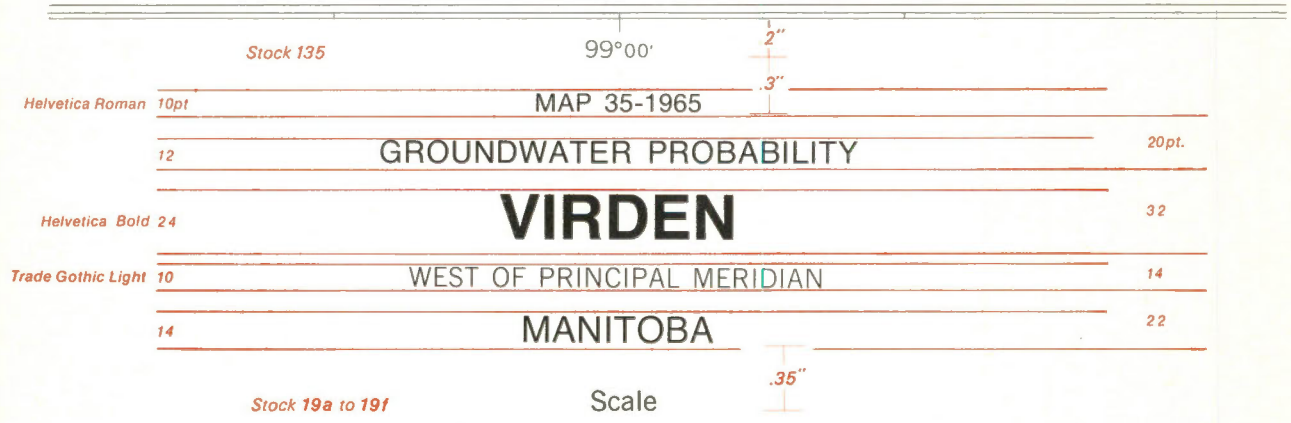
When a full N.T.S. sheet is combined with a portion of another one and the names of the two are combined in the title they should be connected by an "and"

TITLE

English map



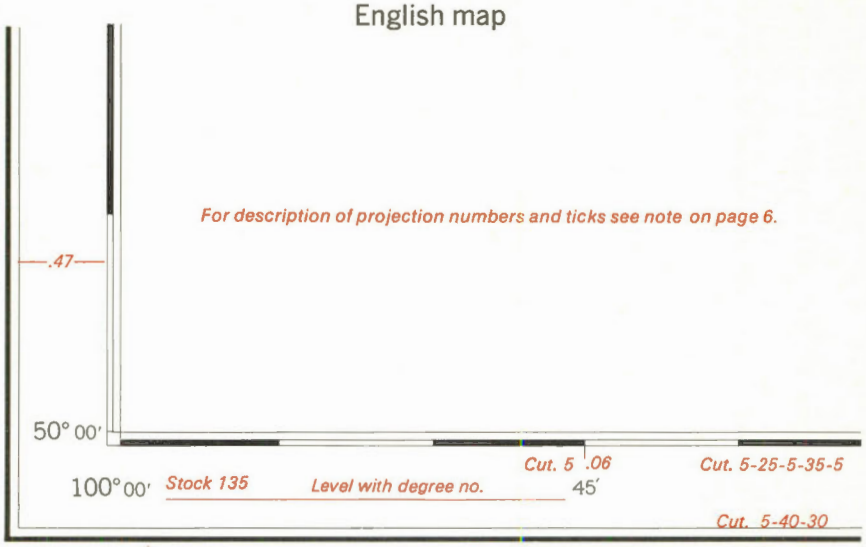




BORDER

SOUTHWEST CORNER

English map



For description of projection numbers and ticks see note on page 6.

Published, 1969 — .05

Stock 420F

Copies of this map may be obtained from the
Geological Survey of Canada, Ottawa

Index map location see page 7

Bilingual map

Published, 1969 — .05

Stock 420F

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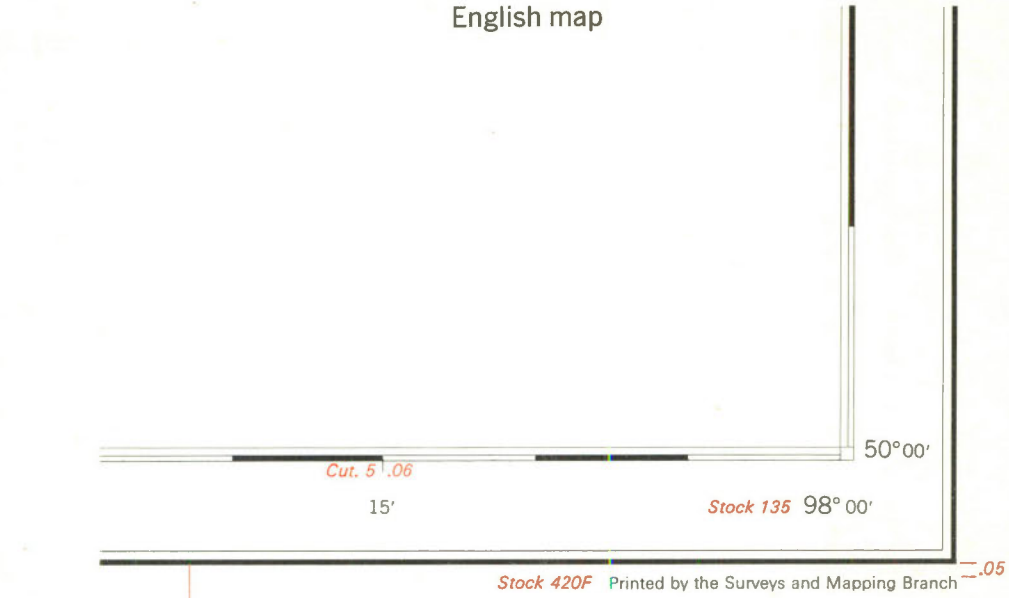
Printed by the Surveys and Mapping Branch

BORDER

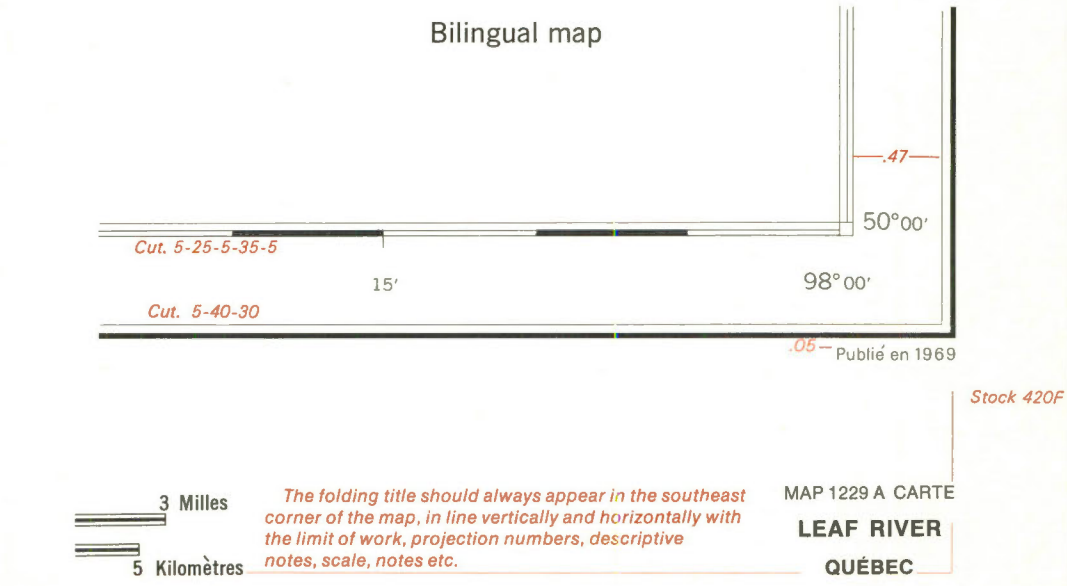
SOUTHEAST CORNER

English map



N.T.S. map location; see page 8

Bilingual map

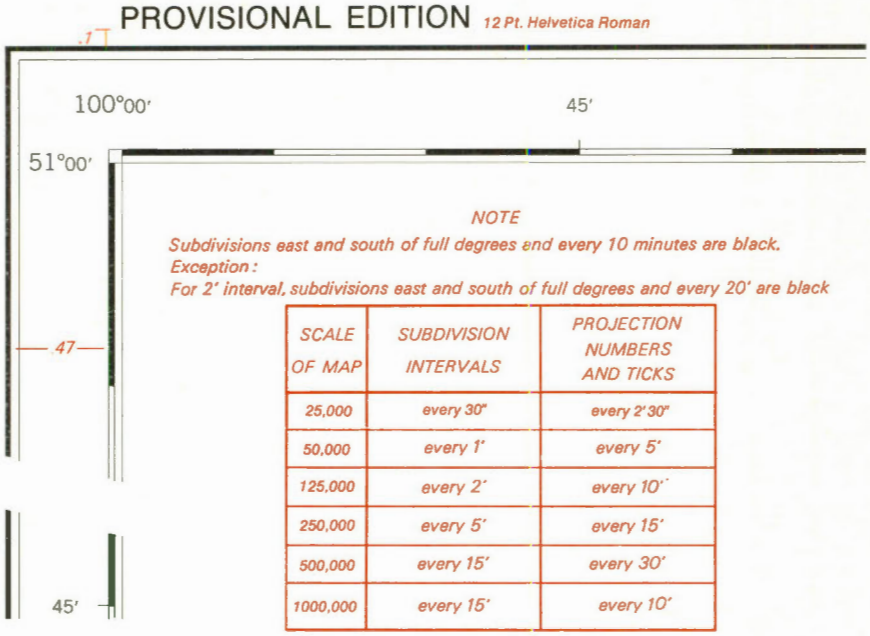


The folding title should always appear in the southeast corner of the map, in line vertically and horizontally with the limit of work, projection numbers, descriptive notes, scale, notes etc.

BORDER

NORTHWEST CORNER

English map

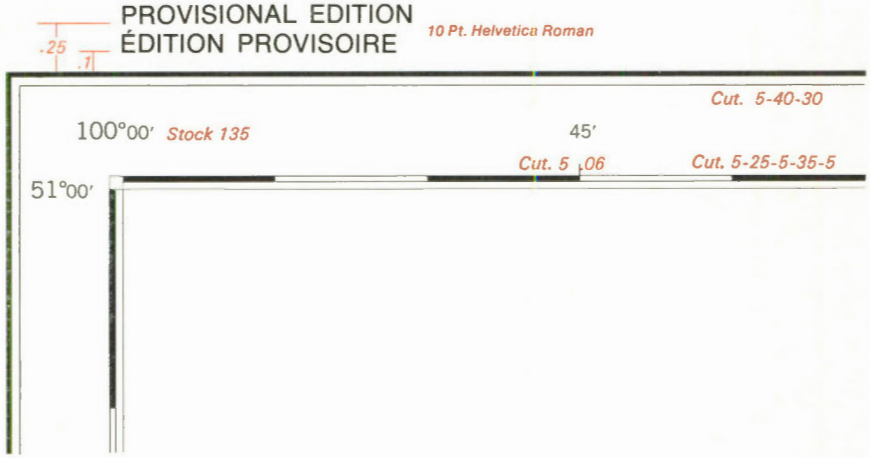


NOTE

Subdivisions east and south of full degrees and every 10 minutes are black.
Exception :
For 2′ interval, subdivisions east and south of full degrees and every 20′ are black

SCALE OF MAP	SUBDIVISION INTERVALS	PROJECTION NUMBERS AND TICKS
25,000	every 30″	every 2′30″
50,000	every 1′	every 5′
125,000	every 2′	every 10′
250,000	every 5′	every 15′
500,000	every 15′	every 30′
1000,000	every 15′	every 10′

Bilingual map



BORDER

SOUTHWEST CORNER

English map

For description of projection numbers and ticks; see page 6.

47°00′

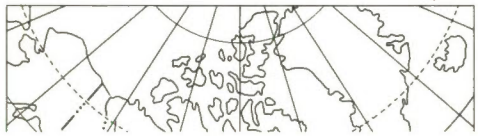
100°00′ .2 .25

Cut 5-25-5-35-5

Published, 1969

Copies of this map may be obtained from the Geological Survey of Canada, Ottawa

At convenience



Bilingual map

47°00′

100°00′ .2 .25

Cut 5-25-5-35-5

Published, 1969

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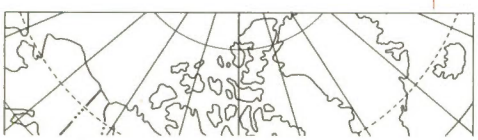
Printed by the Surveys and Mapping Branch

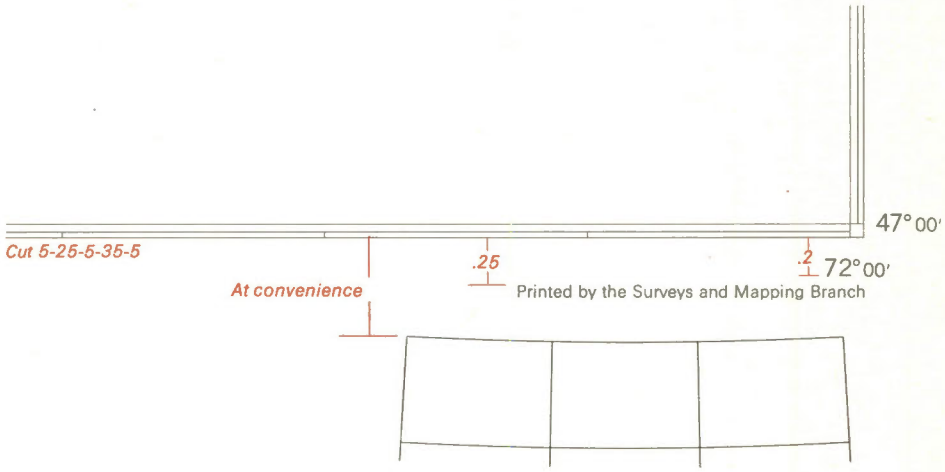
At convenience



BORDER

SOUTHEAST CORNER

English map



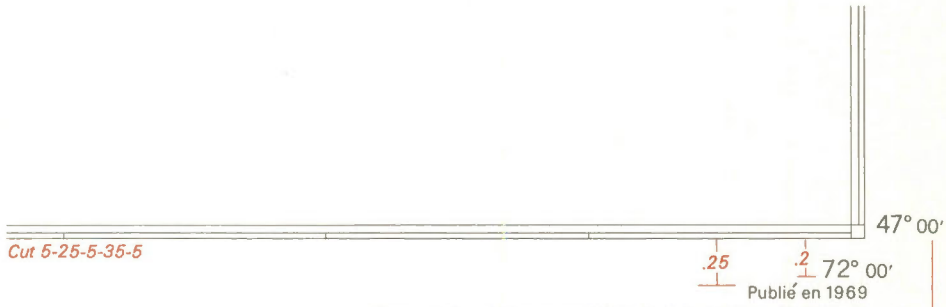
For position of folding title under index when both are in the southeast corner see page 11

Helvetica Roman 7 Pt. **MAP 17-1968**

Helvetica Bold 9/14 Pt. **ALBERNI** *14 Pt.*

Helvetica Bold 8/14 Pt. **BRITISH COLUMBIA** *14*

Bilingual map



Publié en 1969

On peut obtenir des exemplaires de cette carte en s'adressant à la Commission géologique du Canada, Ottawa

Imprimé par la Direction des levés et de la cartographie

3 Milles

5 Kilomètres

The folding title should always appear in the southeast corner of the map, in line vertically and horizontally with the limit of work, projection numbers, descriptive notes, scale, notes etc.

MAP 18-1967 CARTE

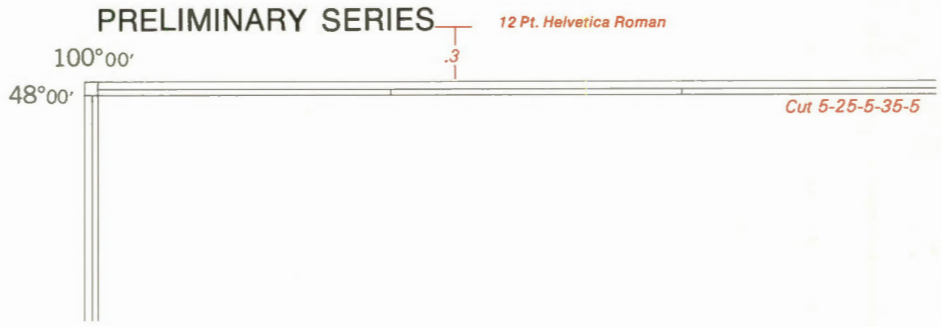
LA PATRIE - SHERBROOKE

QUÉBEC

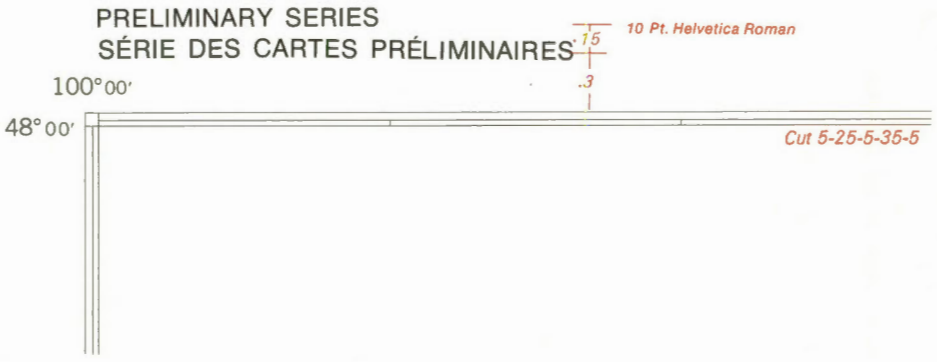
BORDER

NORTHWEST CORNER

English map



Bilingual map

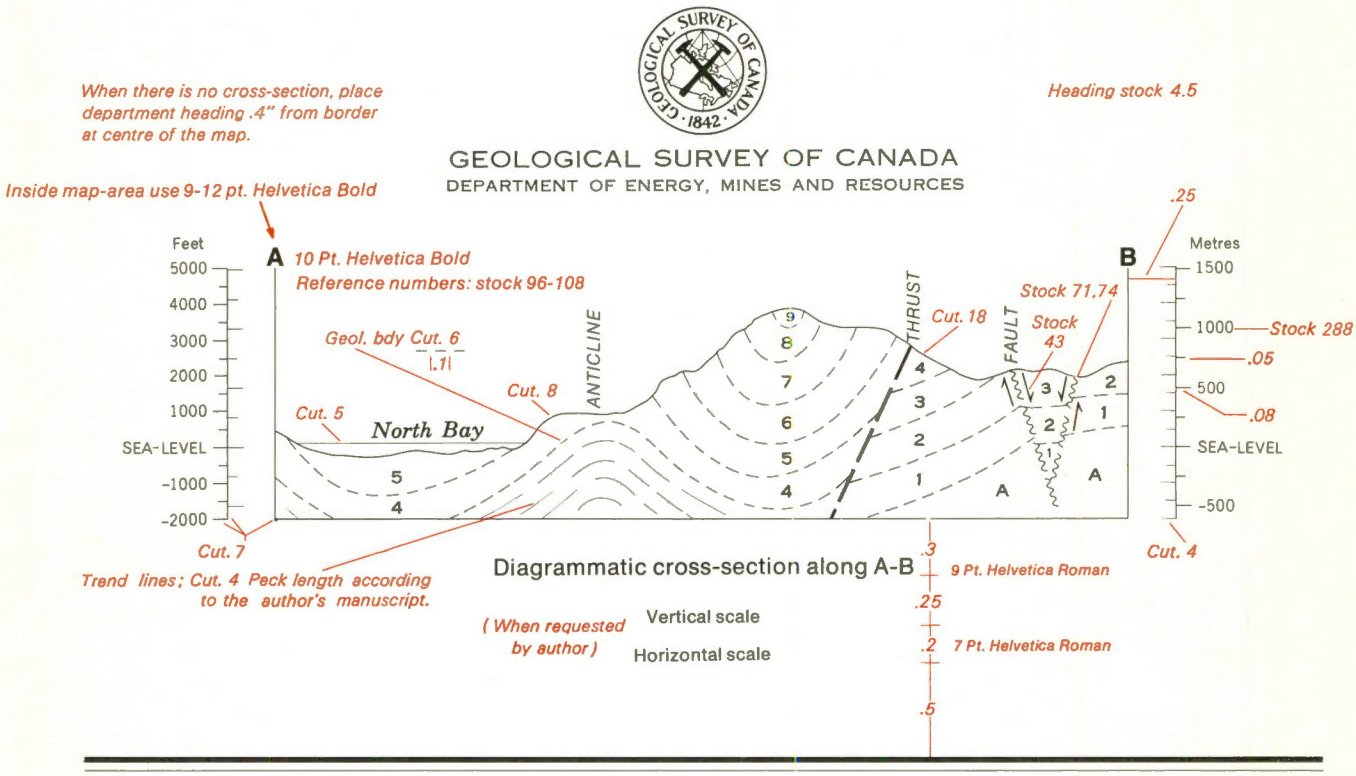


BORDER

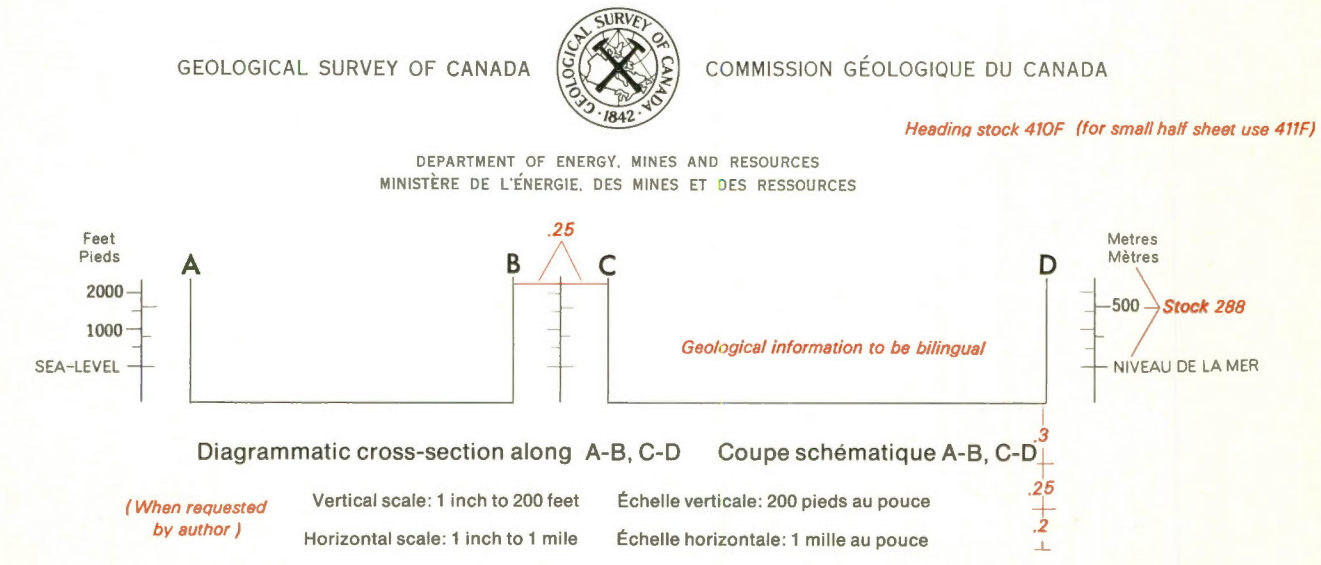
CENTRE

HEADING AND CROSS-SECTION

English map



Bilingual map

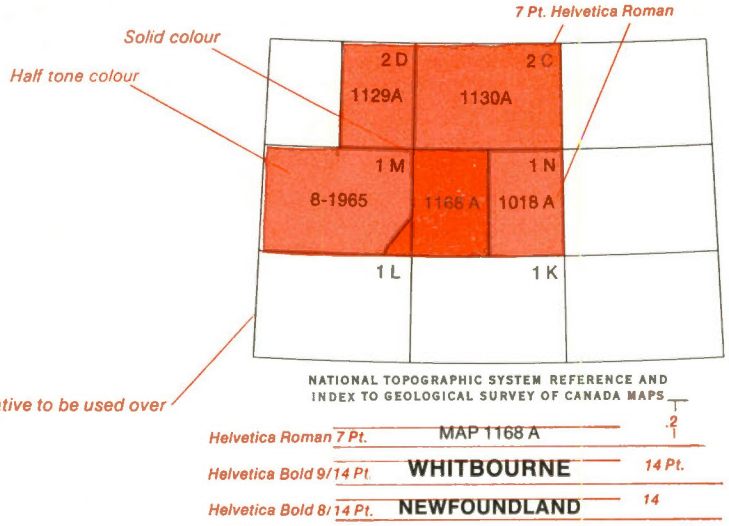


N.T.S. INDEX

Only maps of the same scale should be illustrated in N.T.S. index
(1 inch to 4 miles and 1:250,000 or 1 inch to 1 mile and 1:50,000 are considered same scale)

See page 39 for position of N.T.S. index

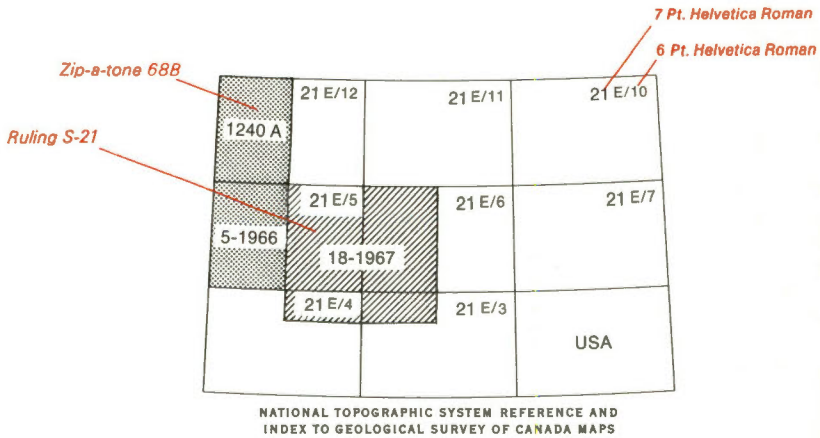
FINAL MAP



Use stock 434 (434A is an alternative to be used over latitude 60°, see page 13)

Folding title appears under index only when both are in the extreme southeast corner of the map.

PRELIMINARY MAP

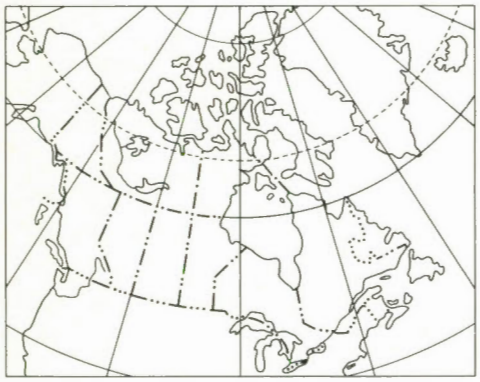


INDEX MAP

Final map

(English)

See page 39 for position of N.T.S. index



INDEX MAP

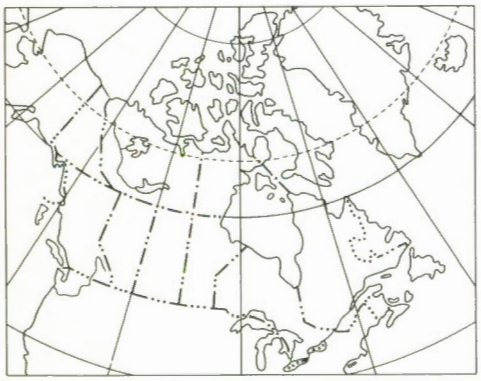
Stock 450 (thin film)

Block should be plotted and drawn according to map size. Minimum size of block .05x.05. Under minimum size use circle. Only circle should be used from stock 450A

Map-area to be shown in colour.

Preliminary map

(Bilingual)



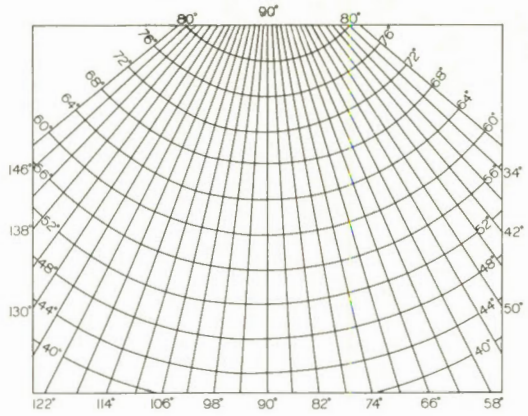
INDEX MAP—LIEU DE LA CARTE

Stock 450 (thin film)

Block should be plotted and drawn according to map size. Minimum size of block .05x.05. Under minimum size use circle. Only circle should be used from stock 450A

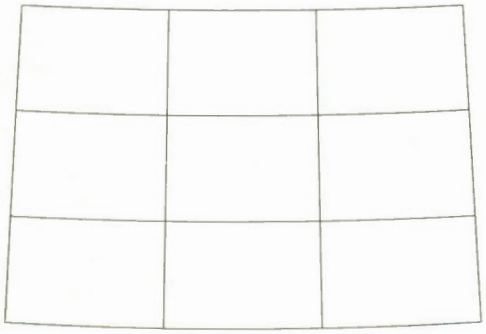
Ruling S-21

Grid to locate map-area on index map



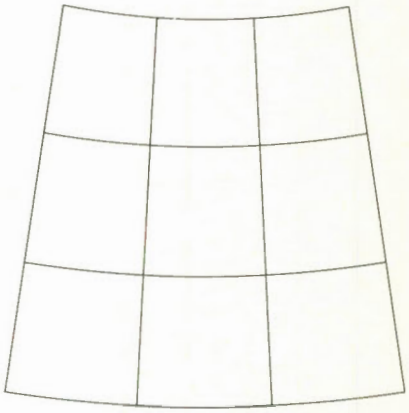
When using projection grid, preference should be given to corresponding topography inside map-area

Available N.T.S. Indexes



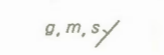
NATIONAL TOPOGRAPHIC SYSTEM REFERENCE AND
INDEX TO GEOLOGICAL SURVEY OF CANADA MAPS

SYSTÈME NATIONAL DE RÉFÉRENCE CARTOGRAPHIQUE ET INDEX
DES CARTES DE LA COMMISSION GÉOLOGIQUE DU CANADA



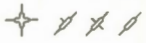
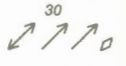
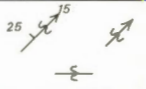
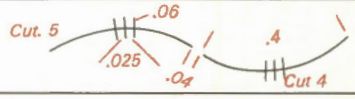
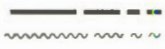
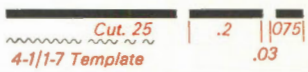
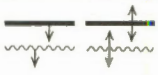
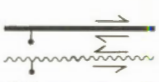
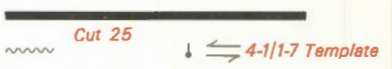
NATIONAL TOPOGRAPHIC SYSTEM REFERENCE AND
INDEX TO GEOLOGICAL SURVEY OF CANADA MAPS

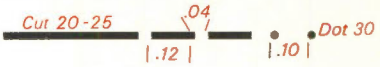
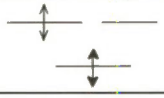
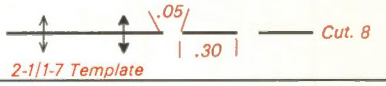
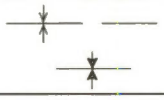
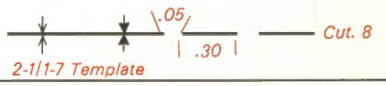
SYSTÈME NATIONAL DE RÉFÉRENCE CARTOGRAPHIQUE ET INDEX
DES CARTES DE LA COMMISSION GÉOLOGIQUE DU CANADA

GEOLOGICAL FEATURES	SYMBOL	SPECIFICATIONS
Drift-covered area		.04 Dot 10 Dot 12 .04
Rock outcrop, area of outcrop, probable outcrop, float, frost heaved rock		Circle 9 Geom I Template and CREX Template Dot 12 .05 Triangle 9 Geom I Template
Geological boundary (defined, approximate, assumed) (shown in legend for final map)		* Cut. 6 .15 .05 Dot 11
Geological boundary (defined, approximate, assumed) (preliminary map)		Cut 8 .15 .05 Dot 13
Geological boundary (gradational inferred or metamorphic) (final map) (preliminary map)		Dot 11 .1 .15 Cut. 6 Dot 13 .1 .15 Cut. 8
Limit of geological mapping		.15 Dot 20 Spaced out to outline area properly
Limit of area surveyed with aircraft		.15 Cut. 9-36-9
Flow contact		Cut. 7 .2 .04
Bedding, tops known (horizontal, inclined, vertical, overturned, dip unknown)		To be used when tops known and unknown appear on same map 2-1/1-7 Template
Bedding, tops unknown (inclined, vertical, dip unknown)		2-1/1-7 Template
Bedding, general trend (dip unknown, top unknown; dip and top known; dip known, top unknown)		Cut. 5 Peck length according to the author's manuscript. .04 .03
Bedding, estimated dip (gentle, moderate, steep)		2-1/1-7 Template Type 7 Pt. Helvetica Italic
Primary flow structures in igneous rock (horizontal, inclined, vertical, dip unknown) If a supplementary symbol is needed use		3-1/1-7 Template 4-1/1-7 Template
Schistosity, gneissosity, cleavage, foliation (horizontal, inclined, vertical, dip unknown) Second generation (horizontal, inclined, vertical) * *		2-1/1-7 Template
Schistosity, gneissosity, cleavage, foliation, general trend		Cut 5 .03 2-1/1-7 Template
Gneissosity, cleavage, foliation (horizontal, inclined, vertical, dip unknown)		2-1/1-7 Template

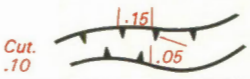
* The minimum distance between two boundaries should be .020"

* * Number of ticks indicates generation

Foliation (horizontal, inclined, vertical, dip unknown)		2-1/1-7 Template
Banding (inclined, vertical, dip unknown)		2-1/1-7 Template
Axial plane of minor fold (horizontal, inclined, vertical, dip unknown)		3-1/1-7 Template
Lineation (horizontal, inclined, inclined but plunge unknown, vertical)		2-1/1-7 Template
Layering (in intrusive rocks)		4-1/1-7 Template
Lineation, axes of minor folds (horizontal, inclined, vertical)		2-1/1-7 Template
Drag-fold (arrow indicates plunge) Drag-fold in gneissosity		2-1/1-7 Template
Minor fold (arrow indicates plunge)		Circle 7, Geom I and 4-1/1-7 Templates
Multiple fold (arrow indicates plunge, inclination of axial plane known, unknown) Multiple fold (plunge unkown)		2-1/1-7 Template
Structural trend (from air photographs)		Follow author's design Cut 5
Lineament (from air photographs)		
Fault (defined, approximate, assumed)		
Fault (inclined, vertical)		
Fault (solid circle indicates downthrow side, arrows indicate relative movement)		
Thrust fault (teeth in direction of dip; defined) (teeth indicate upthrust side)		4-1/1-7 Template or TF Template (Ask supervisor)
Thrust fault (approximate, assumed)		4-1/1-7 Template or TF Template (Ask supervisor)
Fault zone, shear zone; schist zone (width indicated)		Follow author's design 

Shearing and dip		2-1/1-7 Template
Vein fault (defined, assumed)		
Mineralized bed or seam (hematite)		
Dyke, vein, or stockwork (defined, approximate, assumed)		
Joint (horizontal, inclined, vertical, dip unknown)		3-1/1-7 Template
Anticline (defined, approximate) *Antiform*		
Syncline (defined, approximate) *Synform*		
Anticline and syncline (overturned)		Cut 8 2-1/1-7 Template
Anticline or syncline (arrow indicates plunge)		Cut 8 2-1/1-7 Template
Antiform or synform		Cut 8 3-1/1-7 Template
Glacial striae (direction of ice movement known, unknown) *Numbers indicate relative age, 1 being the oldest*		2-1/1-7 Template Type 6 pt. Trade Gothic Light
End moraine		
Minor moraines, washboard moraines, "annual" moraines, till ridges transverse to ice flow (irregular, straight)		
Drumlins, drumlinoid ridges, crag and tail, furrows, flutings, gouges, till ridges; parallel with ice flow (direction of ice movement known, unknown) *(On large scale map)* *When necessary to distinguish between drumlins and crag and tail hills use for drumlins* *and for crag and tails*		2-1/1-7 Template
Pingo or palsen		3-1/1-7 Template
Esker (direction of flow known, unknown)		Stock 89, 90. or special E Template (Ask supervisor)

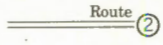
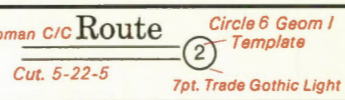
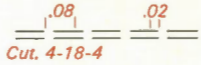
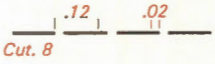
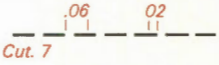
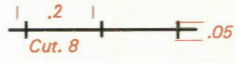
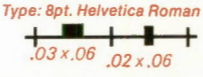
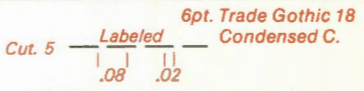
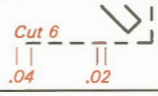
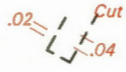
Arrow heads should not be patched on overlay if symbol lines are scribed

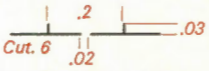
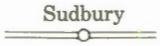
Esker (continuous, discontinuous)		*Stock 89, 90. or special E Template (Ask supervisor)* 
Raised beaches		*Circle 9 Geom I Template Cut 5*
Limit of marine or lacustrine submergence (well marked, assumed)		*2-1/1-7 Template*
Dunes		*4-1/1-7 Template*
Area of sand dunes		*Stock 49*
Buried valley		
Abandoned river channel, spillway, ice-marginal channels, rill patterns etc.		
Landslide scar		*Follow author's design Cut. 5*
Escarpment		*As on author's manuscript Cut. 5*
Fossil locality	Ⓕ	*Stock 370*
Locality where age has been determined, in millions of years	Ⓐ 1400	*Stock 370* 8pt. Helvetica Roman
Location of measured section		
Gravel pit (active, abandoned)		*3-1/1-7 Template*
Rock dump or tailings		
Quarry or mine; rock trench and stripped area *Quarry or mine (abandoned)*		*3-1/1-7 Template*
Mine or mineral prospect (lead, zinc)	Pb Zn	*3-1/1-7 Template* letters 7 or 8pt. Helvetica Bold
Mineral prospect; mineral occurrence (manganese)	3 Mn	*3-1/1-7 Template* 3 8pt. Century Schoolbook Roman Mn 7 or 8pt. Helvetica Bold

For Helicopter Landing see description, page 21

Placer deposit	✕	*3-1/1-7 Template*
Salt spring	ss	*Circle 9 Geom I Template* *2-1/1-7 Template* *Type 7pt. Trade Gothic Light It.*
Hot spring	hs	*Circle 9 Geom I Template* *2-1/1-7 Template* *Type 7pt. Trade Gothic Light It.*
Mineral isograd *Other alternatives when more than one*		*4-1/1-7 Template* *Circle10 and Triangle 10 Geom I Template*
Shaft, raise, winze *Shaft (abandoned)*		*3-1/1-7 and CREX Template Row B*
Trench *Open cut; axial*		*3-1/1-7 Template*
Adit or tunnel *Adit or tunnel (caved)*		*3-1/1-7 Template*
Borehole	● BH ● BH2	*Circle 2 GEOM 2 Template* *Type 7pt. Trade Gothic Light*
Diamond-drill hole *(Surface projection of geology inferred)*	● DDH	*Cut 5* *.10* *Circle 2 GEOM 2 Template* *Type 7pt. Trade Gothic Light*
Sinkhole	o SH	*Circle 2 GEOM 2 Template* *Type 7pt. Trade Gothic Light*
Gossan	G	*Stock 102 or larger* *Craftint 261* *Geological boundary as on author's manuscript*
Trace of coal seam		*Cut. 25* *.04* *.4*

Show of oil and gas (abandoned)		*Stock 155 or 156*
Show of gas (abandoned)		*Stock 155 or 156*
Show of oil (abandoned)		*Stock 155 or 156*
Gas producer		*Stock 155 or 156*
Oil producer		*Stock 155 or 156*
Location of drilling		*Stock 155 or 156*
Dry (abandoned)		*Stock 155 or 156*
Water source or disposal		*Stock 155 or 156*
Status unknown or drilled for purposes other than gas or oil		*Stock 155 or 156*

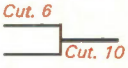
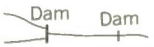
ROADS AND RELATED FEATURES	EXAMPLE	SPECIFICATIONS
Road, all weather		
Other roads		
Cart track or Road, under construction		
Trail or portage		
RAILROADS AND RELATED FEATURES	**EXAMPLE**	**SPECIFICATIONS**
Railway		
Station or stop		
Aerial cableway, conveyor belts etc.		
AIRPORTS ETC.	**EXAMPLE**	**SPECIFICATIONS**
Aerodrome, airport (large scale map)		 Plotted to scale
Airstrip (large scale map)		 Plotted to scale
Aerodrome, airport (small scale map)		Stock 373
Airstrip (small scale map)		Stock 373
Seaplane base, anchorage		Stock 373
Helicopter landing		Stock 370

FEATURES RELATED TO COMMUNICATIONS	EXAMPLE	SPECIFICATIONS
Wireless station		*Stock 378*
Telegraph or telephone line		
POPULATED PLACES AND RELATED FEATURES	**EXAMPLE**	**SPECIFICATIONS**
Large built up area (large scale map)		
Small built up area (large scale map)		
Built up area (small scale map)		7 or 8pt. Century Schoolbook Roman O Stock 372
Village or settlement		Name only is indicated 7 or 8pt. Century Schoolbook Roman
Post Office (village or settlement)		Navan 8pt. Century Schoolbook Roman P Stock 370 or 7pt. Trade Gothic Light.
Post Office name (different from place name)	Port Williams (Greenwich PO)	8pt. Century Schoolbook Roman 7pt. Trade Gothic Light.
Trading Post *RCMP Post* *Building* *	Tr 	Stock 370 or 7pt. Trade Gothic Light. Stock 371
LANDMARK FEATURES	**EXAMPLE**	**SPECIFICATIONS**
Mine		3-1 1-7 Template
Open cut		3-1 1-7 Template
Lighthouse		Stock 372
Power transmission line		
Pipeline		Labeled 7pt. Trade Gothic Light Cut. 6

* *Building to be shown on author's request generally on small scale maps representing inhabited areas (shape of building determined by author)*

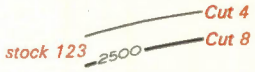
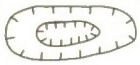
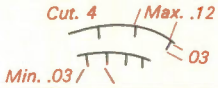
CONTROL POINTS	EXAMPLE	SPECIFICATIONS
Horizontal control point	◬	*Stock 373-372*
Boundary monument	⊡	*Stock 372*
Observation monument	⊙	*Stock 373-372*
BOUNDARIES	**EXAMPLE**	**SPECIFICATIONS**
International	—···—···—	.2 .18 Cut. 15 Dot 20
Provincial	—··—··—	.2 .13 Cut. 13 Dot 20
County or district	— · — · —	.2 .13 Cut. 11 Dot 18
Township or parish	— — — —	.2 Cut. 10 .02
Park		.25 Cut. 10 .05 Zip-a-tone optional
Indian reserve	– – – – – –	.08 .02 Cut. 5
Section or survey lines	———	Cut. 5
Meridian or base line	———	Labeled 8 Pt.Lightline Gothic Cut. 5
Forest and game reserves *	— — —	.3 .05

* *Are not shown, unless required by author*

SHORELINE AND DRAINAGE	EXAMPLE	SPECIFICATIONS
Shoreline		Cut. 6
Large stream		Cut. 6 *
Stream (perennial)		* *
Intermittent stream		
Approximate stream or lake		
Rapids, falls Portage		Type Stock 437 
Irrigation canal or ditch		Cut. 5
Canal		
Foreshore, tidal flats		
Reef, rock or small island		Stock 378 Smallest of the two sizes
Marsh, bog or open muskeg		
Wharf or pier		
Rocky ledge		Cut. 6
Dam		
Salt marsh (Schorre)		

* Minimum width of double line rivers .016

* * Start rivers with cut. 4 and change to next half size to cut. 7, then use next full size to a maximum of cut. 12

RELIEF FEATURES	EXAMPLE	SPECIFICATIONS
Contours		
Depression contours		
Cliff, bluff or escarpment		
Sand or gravel		* 

PERMANENT SNOW AND ICE FEATURES	EXAMPLE	SPECIFICATIONS
Glacier, snowfield or ice cap		

* a) Sand and gravel to be shown in brown.
b) If areas on topographical sheet are different from those on geological manuscript, follow manuscript.

GEOLOGICAL INFORMATION	EXAMPLE	SPECIFICATIONS
Legend type for final and provisional maps	GROUP *Quartz*	*See pages 36, 37, 38, 40*
Legend type for preliminary map	GROUP Quartz	*See pages 32, 33, 34, 35*
Descriptive notes for final map *Words "descriptive notes" for final map*	Sandstone NOTES	*8 Pt. Helvetica Roman* *10 Pt. Helvetica Roman 1 unit*
Index map *Words "Index map" "Lieu de la carte"*	LIEU DE LA CARTE INDEX MAP	*Stock 434*
LABELED GEOLOGICAL INFORMATION	**EXAMPLE**	**SPECIFICATIONS**
Geological reference number	5a	*Stock 96-108*
Bedding and strike number	45	*Stock 56*
Isograd descriptive name	*BIOTITE*	*7pt. Helvetica Italic*
Iso-line and contour number	200	*8pt. Helvetica Roman*
Mining property name	Sullivan	*7 or 8pt. Helvetica Roman*
Reference number for mining property	20	*8pt. Century Schoolbook Roman*
Mineral identification symbol	**Cu py**	*7 or 8 pt. Helvetica Bold*
Geological note inside map-area	*Unmapped*	*7 or 9pt. Helvetica Italic*
	Unmapped	*7 or 9pt. Helvetica Bold Italic. Use only if conflicting on map with other names such as glaciers etc.....*
Anticline, syncline and fault names	*LEWIS FAULT*	*7 or 9pt. Helvetica Italic*

PLACES	EXAMPLE	SPECIFICATIONS
Principal city, capital or main city of the map	OTTAWA	*10 or 12pt. Century Schoolbook Roman*
Other cities	Hull	*8 or 10pt. Century Schoolbook Roman C/C*
Village	Stonecliffe	*6 or 8 pt. Century Schoolbook Roman C/C*
Railway station and stop	Brouse Sta	*7pt. Helvetica Roman C/C*
LAND DIVISIONS, ALONG BOUNDARIES	**EXAMPLE**	**SPECIFICATIONS**
Country, province, territory, county, district	CANADA	*12pt. Coplate 6, 5 and 6pt. Coplate 4*
Foreign name	UNITED STATES, MAINE	*12pt. Coplate 6*
Township, parish, municipality	HAMSTEAD TP.	*9pt. Trade Gothic 18 Condensed*
Meridian, base line	Principal Meridian	*7pt. Trade Gothic Light*
LAND DIVISIONS, OPEN AREA	**EXAMPLE**	**SPECIFICATIONS**
Foreign country name	GREENLAND (DENMARK)	*Trade Gothic Light*
RESERVATIONS	**EXAMPLE**	**SPECIFICATIONS**
Military reserves, national or provincial parks (Forest and game reserves are not shown, unless required by author)	PARK	*18pt. Coplate 9*
	MILITARY RESERVE	*12pt. Coplate 6*
Indian reserve	I.R. No. 16	*Trade Gothic Light up to 8pt.*

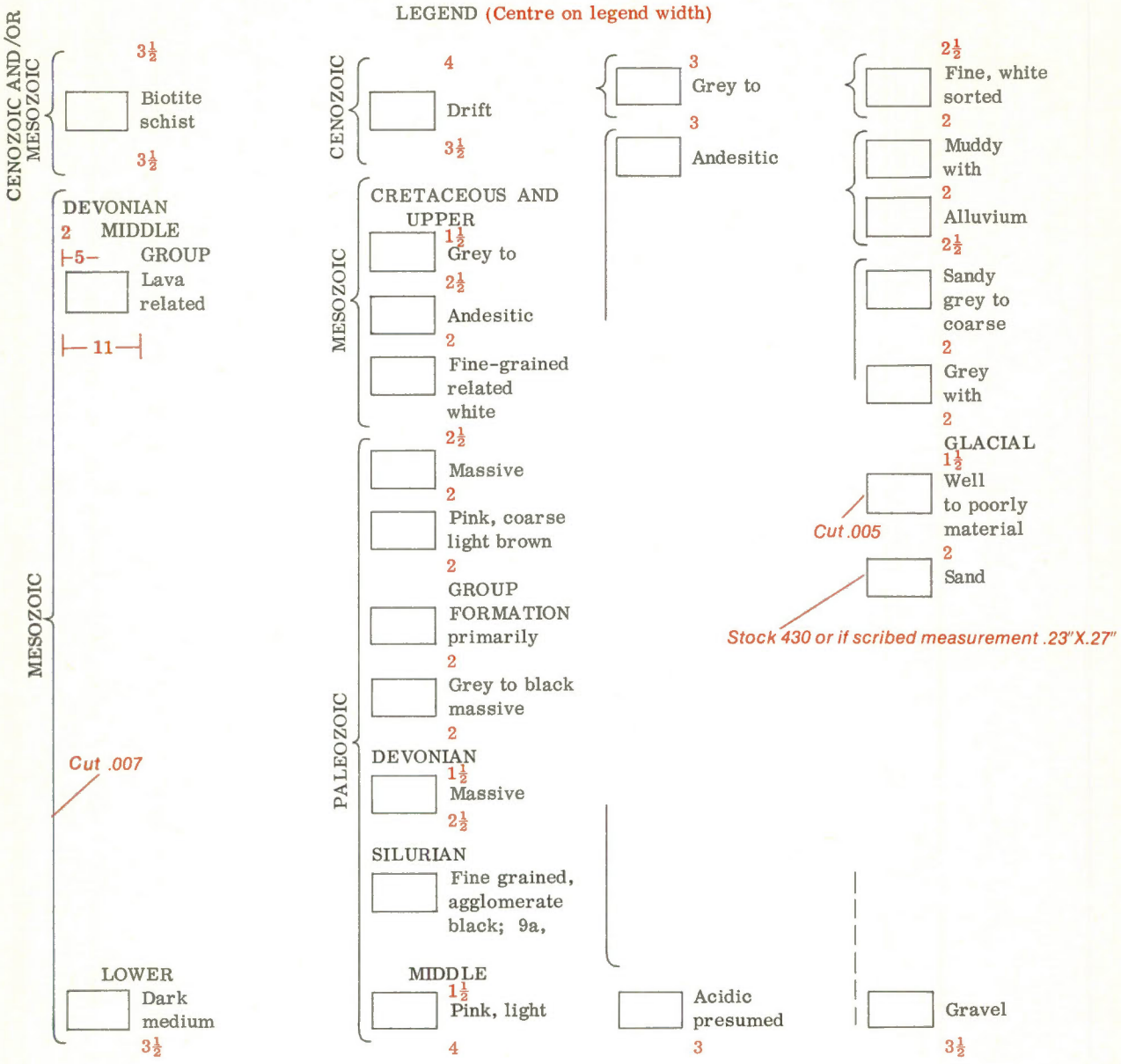
LITTORAL DESCRIPTIVE NAMES	EXAMPLE	SPECIFICATIONS
Large : island, peninsula, isthmus	DEVON ISLAND	*10 to 18pt. Helvetica Roman C.*
Small : island, peninsula, isthmus	Hazel I.	*Up to 10pt. Trade Gothic Light C/C*
Point, cape	Cap Blanc	*7pt. Trade Gothic Light C/C*
OROGRAPHY	**EXAMPLE**	**SPECIFICATIONS**
Mountain range and large mountain	ROCKY MOUNTAINS	*12 Pt. Coplate 5,6,7*
Mountain, hill, pass	SHASS MOUNTAIN	*6 Pt. Coplate Cond. 34* *12 Pt. Coplate Cond. 35*
Mountain, hill and peak (in congested area)	SHASS MTN. Shass Mtn.	*6 Pt. Coplate Cond. 33* *6 Pt. News Gothic Cond. C/C*
HYDROGRAPHY	**EXAMPLE**	**SPECIFICATIONS**
Body of open water	*HUDSON BAY*	*8 to 16 Pt.Cent. Schoolbook Italic*
Small lake, pond, bay etc...	*Quill Lakes*	*6 or 8 Pt. Cent. Schoolbook Italic*
Large river	*COLUMBIA RIVER*	*8 to 12 Pt. Cent. Schoolbook Italic*
Medium river	*Rivière Saguenay*	*8 or 10 Pt Cent. Schoolbook Italic*
Small stream, named falls and rapids	*Clear Bk Grand Falls*	*6 Pt. Cent. Schoolbook Italic*

ROADS AND RAILROADS	EXAMPLE	SPECIFICATIONS
Label roads and railways	ALASKA HIGHWAY	*6pt. or 7pt. Trade Gothic 18 Condensed C.*
Route number inside circle	②	*6pt. Trade Gothic Light Circle: Stock 393-393A*
CONTROL DATA	**EXAMPLE**	**SPECIFICATIONS**
Contour figure	1200	*Stock 123*
Spot elevation and lake elevation	+ 650 650	*6pt. Trade Gothic Light* + *Stock 378 (smallest of the two sizes)*
Relief data note	Rising to about 6000 feet	*7pt. Helvetica Roman*
Concession,range number	IV	*7pt. Trade Gothic Light.*
Section number	22	*6pt. Trade Gothic Light*
Surveyed line	7th Base Line	*6pt. Trade Gothic Light*
LABELED FEATURES	**EXAMPLE**	**SPECIFICATIONS**
Dam, ferry, crossing, ford, bridge, ditch etc...	Old Dam	*6pt. Trade Gothic Light*
SNOW AND ICE FEATURES	**EXAMPLE**	**SPECIFICATIONS**
Glacier name	*Glacier*	*7 or 8 pt Helvetica Italic*
Small ice cap	*Seward Ice Cap*	*8pt. Helvetica Italic*
Large ice cap	*GREAT ICE CAP*	*Up to 12pt. Helvetica Italic*

Layout of legend

Typewritten legend *(to be reduced 4 to 3)*

Note: this guide is not true to scale



Vertical and horizontal measurements calculated from typewriter spacing

(Centre on legend width)

See pages 14 to 19 for proper sequence

Geological 1½

Bedding, tops dip 1½

Fault 3

MINERALS

1½
Arsenopyrite . . . . asp

Silver . . . . . Ag

Gold . . . . . 1½ Au

3

See page 41 for typewriter specifications

Layout of legend (continued)

Typewritten legend *(to be reduced 4 to 3)*

Note: this guide is not true to scale

Geology by ..... 1968 or 1967, 1968 or 1967, 1969
or if continuous 1967-1970

3

To accompany Paper .....by.....

3

(Any supplementary information concerning geology should be inserted here)

One of these notes should appear in legend:

- This preliminary edition may be subject to revision and correction
- This preliminary edition was prepared without final drafting and may be subject to revision and correction

3

Geological cartography by the Geological Survey of Canada

3

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

3

(Topographical map name should appear in note if different from Geological map)

One of these credit notes should appear in legend:

Base-map used without redrafting:

- Base-map at the same scale or at the scale of 1/.....published by.....in 1968. If revisions add: Roads or streams or marshes etc.....were revised by the Geological Survey of Canada for this edition
- Base-map assembled by the Geological Survey of Canada from maps published at the same scale or at 1/.....scale by ..... in 1956, 1961, 1962, 1964, 1968
- Base-map from parts of maps published at the same scale or at 1/.....scale by .....in 1963, 1965

Redrawn base-map:

- Base-map cartography by the Geological Survey of Canada from maps published at 1/.....scale by .....in 1963, 1967
- Base-map cartography by the Geological Survey of Canada from part(s) of 1/.....scale map(s) (N. T. S. number(s)) ..... published by .....in 1963

"Published" should be used where base-map is drawn by the Geological Survey from published maps; if from unpublished maps or from compilation, instead of "published" use "compiled"

Credit notes may apply to: The Surveys and Mapping Branch, The Army Survey Establishment, R. C. E., or any provincial organization or mining company

3

Copies of the topographical edition of this map may be obtained from the Map Distribution Office, Department of Energy, Mines and Resources, Ottawa (If base-map is at same scale)

3

Geographical names subject to revision
(If author requires new names)

3

One of these notes should appear in legend:

1/50,000, 1/125,000:

- Approximate magnetic declination 1969, 29° 37' West, decreasing or increasing 2.9' annually

1/250,000, 1/500,000, 1/1,000,000:

- Mean magnetic declination 1969, 24° 38' East, decreasing or increasing 5.3' annually. Readings vary from 21° 54' in the SE corner to 27° 18' in the NW corner of the map-area
- Magnetic declination 1969 varies from 05° 34' easterly at centre of west edge to 03° 20' easterly at centre of east edge. Mean annual change 0.8' easterly or + 0.8' or 0.8' westerly or -0.8'

3

The Quebec-Newfoundland boundary has not been surveyed and monumented on the ground at date of publication

3

Elevations in feet above mean sea-level

(Any supplementary information concerning topography should be inserted here)

See page 41 for typewriter specifications

Layout of legend

Linofilm

Legend to be set in 8 point Century Schoolbook Roman
All measurements are in points (or in picas where indicated)

Note: this guide is not true to scale

All eras are 45 points (Exception: PROTEROZOIC = 50 pts)

LEGEND *(Centered)*

CENOZOIC AND/OR MESOZOIC

Biotite schist *8/35*

DEVONIAN MIDDLE GROUP *8/35*
Lava related
3 picas

MESOZOIC

Cut .005

1.5 pica
LOWER
Dark medium

8/35

CENOZOIC

Drift *8/40*

Grey to *8/32*

Andesitic *8/30*

MESOZOIC

8/35
CRETACEOUS AND UPPER *8/10*
Grey to *8/15*

Andesitic *8/25*

Fine-grained related white *8/20* *8/10*

PALEOZOIC

Massive *8/25*

Pink, coarse light brown *8/20*

3 picas
GROUP *8/20*
FORMATION *8/10*
primarily *8/10*

Grey to black massive *8/20*

DEVONIAN *8/20*
Massive *8/15*

SILURIAN *8/25*
Fine grained, agglomerate black; 9a,

1.5 pica
MIDDLE *8/20*
Pink, light

8/40

Acidic presumed

8/32

Fine, white sorted *8/27* *8/10*

Muddy with *8/20* *8/10*

Alluvium *8/20*

Sandy grey to coarse *8/25* *8/10* *8/10*

Grey with *8/20* *8/10*

GLACIAL *8/20*

Well to poorly material *8/15* *8/10* *8/10*

Cut .005

Sand *8/20*

Stock 430 or if scribed measurement .23"X.27"

Gravel

8/35

See pages 14 to 19 for proper sequence

Standard spacing 3 units

Geological . . . . . .

Bedding, tops *8/15*
dip . . . . . *8/10* . . . . . .

Fault . . . . . *8/15* . . . . . .

MINERALS *8/30*

Arsenopyrite . . . . asp *8/15*

Silver . . . . . Ag

Gold . . . . . Au *8/15*

8 picas

2 picas

See page 41 for points and picas specifications

Layout of legend (continued)

Linofilm

Note: this guide is not true to scale

Geology by ..... 1968 or 1967, 1968 or 1967, 1969 or if continuous 1967–1970

8/30

To accompany Paper .....by.....

8/30

(Any supplementary information concerning geology should be inserted here)

One of these notes should appear in legend:

- This preliminary edition may be subject to revision and correction
- This preliminary edition was prepared without final drafting and may be subject to revision and correction *8/10*

8/30

Geological cartography by the Geological Survey of Canada

8/30

Any revisions or additional geological information known to the user would be welcomed by the Geological Survey of Canada *8/10*

8/30

(Topographical map name should appear in note if different from Geological map)

One of these credit notes should appear in legend:

Base-map used without redrafting:

- Base-map at the same scale or at the scale of 1/.....published by.....in 1968. If revisions add: Roads or streams or marshes *8/10* etc.....were revised by the Geological Survey of Canada for this *8/10* edition
- Base-map assembled by the Geological Survey of Canada from maps published at the same scale or at 1/.....scale by ..... in 1956, 1961, 1962, 1964, 1968
- Base-map from parts of maps published at the same scale or at 1/.....scale by .....in 1963, 1965

Redrawn base-map:

- Base-map cartography by the Geological Survey of Canada from maps published at 1/.....scale by .....in 1963, 1967
- Base-map cartography by the Geological Survey of Canada from part(s) of 1/.....scale map(s) (N. T. S. number(s)) published by .....in 1963

"Published" should be used where base-map is drawn by the Geological Survey from published maps; if from unpublished maps or from compilation, instead of "published" use "compiled"

Credit notes may apply to: The Surveys and Mapping Branch, The Army Survey Establishment, R. C. E., or any provincial organization or mining company

8/30

Copies of the topographical edition of this map may be obtained from the Map Distribution Office, Department of Energy, Mines and Resources, Ottawa (If base-map is at same scale)

8/30

Geographical names subject to revision
(If author requires new names)

8/30

One of these notes should appear in legend:

1/50,000 1/125,000:

- Approximate magnetic declination 1969, 29°37' West, decreasing or increasing 2.9' annually

1/250,000, 1/500,000 1/1,000,000:

- Mean magnetic declination 1969, 24°38' East, decreasing or increasing 5.3' annually. Readings vary from 21°54' in the SE corner to 27°18' in the NW corner of the map-area
- Magnetic declination 1969 varies from 05°34' easterly at centre of west edge to 03°20' easterly at centre of east edge. Mean annual change 0.8' easterly or + 0.8' or 0.8' westerly or -0.8'

8/30

The Quebec-Newfoundland boundary has not been surveyed and monumented on the ground at date of publication *8/10*

8/30

Elevations in feet above mean sea-level

(Any supplementary information concerning topography should be inserted here)

See page 41 for points and picas specifications

DESCRIPTIVE NOTES AND LEGEND

Layout of legend and descriptive notes as prepared for Linofilm

Note: this guide is not true to scale

Descriptive Notes to be set in 8/9 Trade Gothic Light, upper and lower case except where circled in red

10 Hel. Roman, Caps, 1 unit DESCRIPTIVE NOTES *8/22*

Less 1 pica

The map-area lies across the boundary between the Central Paleozoic Mobile Belt and the Avalon Platform (1), the boundary passing beneath Hermitage Bay, where it is interpreted as a fault (2) and presumably extending southwestward south of Penquin Islands. Rocks (7, 11) north of the boundary are typical of the regional metamorphic terrane and granitic intrusions that characterize the eastern margin of the Central Paleozoic Mobile Belt and that continue 120 miles along trend to the northeast coast of Newfoundland (3). To the south lie intrusive rocks (10, 11) and the relatively unmetamorphosed volcanic rocks (1) on Plate Islands.

Rocks of the Baie d'Espoir Group (3), (originally Baie d'Espoir Series (7)) are for the most part regionally metamorphosed throughout the map-area but they can be traced northeastward into less metamorphosed equivalents, which extend all the way to the northeast coast of Newfoundland (9). The rocks are unfossiliferous in the map-area but geologists of the Newfoundland and Labrador Corporation discovered a poorly preserved probable Ordovician gastropod (*? Eotomaria sp.*) 9 miles east of the map-area at Barasway de Cerf in Bay d'Espoir (W. B. Dunlop, pers. comm., 1962), and more recently crinoidal debris and *Streptelasma*, suggesting an Ordovician or later age were found near St. Albans (F. D. Anderson, pers. comm., 1967).

Justify right margin

8 Hel. Italic, upper & lower case

7/24

Less 1 pica

1. Williams, Harold: Silurian rocks of Newfoundland; Geol. Assoc. Can., Special Paper No. 4, pp. 93-138 (1967). *7/8 Trade Gothic Light, upper and lower case*

7/24

2. Williams, Harold: The Appalachians in northeastern Newfoundland - A two-sided symmetrical system; Am. J. Sci., vol. 262, pp. 1137-1158 (1954).

7/24

3. Anderson, F.D.: Belleoram map-area, Newfoundland; Geol. Surv. Can., Map 8-1965 (1965).

Numbers circled in red - 6 Trade Gothic Light

See page 39 for preparation

LEGEND

Note: this guide is not true to scale

Line-space measurements can be adjusted to suit particular legend in the following cases:
8/13 can vary from 8/11 to 8/15 in list of symbols
line-space 30 can be reduced to 20 in credit notes

Legend to be set in 8/10 Helvetica Italic unless otherwise indicated

All measurements are in points (or in picas where indicated)

10 pt Helvetica Roman, 4 units, centred

All eras are 50 points (exception: PROTEROZOIC = 75 points)

10 pt Helvetica Roman

ARCHEAN

Cut .007

Cut .005

LEGEND

8/40	*8/35*	*8/30*
Unconso	*Sandy beach*	*Rocky basalt flows*
8/53	*8/48*	*8/43*
Mafic	*Mafic*	*Mafic*

LEGEND

8/48	*8/43*	*8/38*
Unconso	*Sandy beach*	*Rocky basalt flows*
Mafic schist	*Mafic schist*	*Mafic schist*

LEGEND

8/43	*8/38*	*8/33*
Unconso	*Sandy beach*	*Rocky basalt flows*
Mafic schist gneiss	*Mafic schist gneiss*	*Mafic schist gneiss*

MESOZOIC CENOZOIC

Block: .4" x .75" or Stock 431 and 431A

11

11

7

5 picas

28 pt

LEGEND

8/44		
Unconso	*Uncon*	*Uncon*
8/57	*8/52*	*8/47*
Quartz	*Maroon green*	*Grey thin-be black*

LEGEND

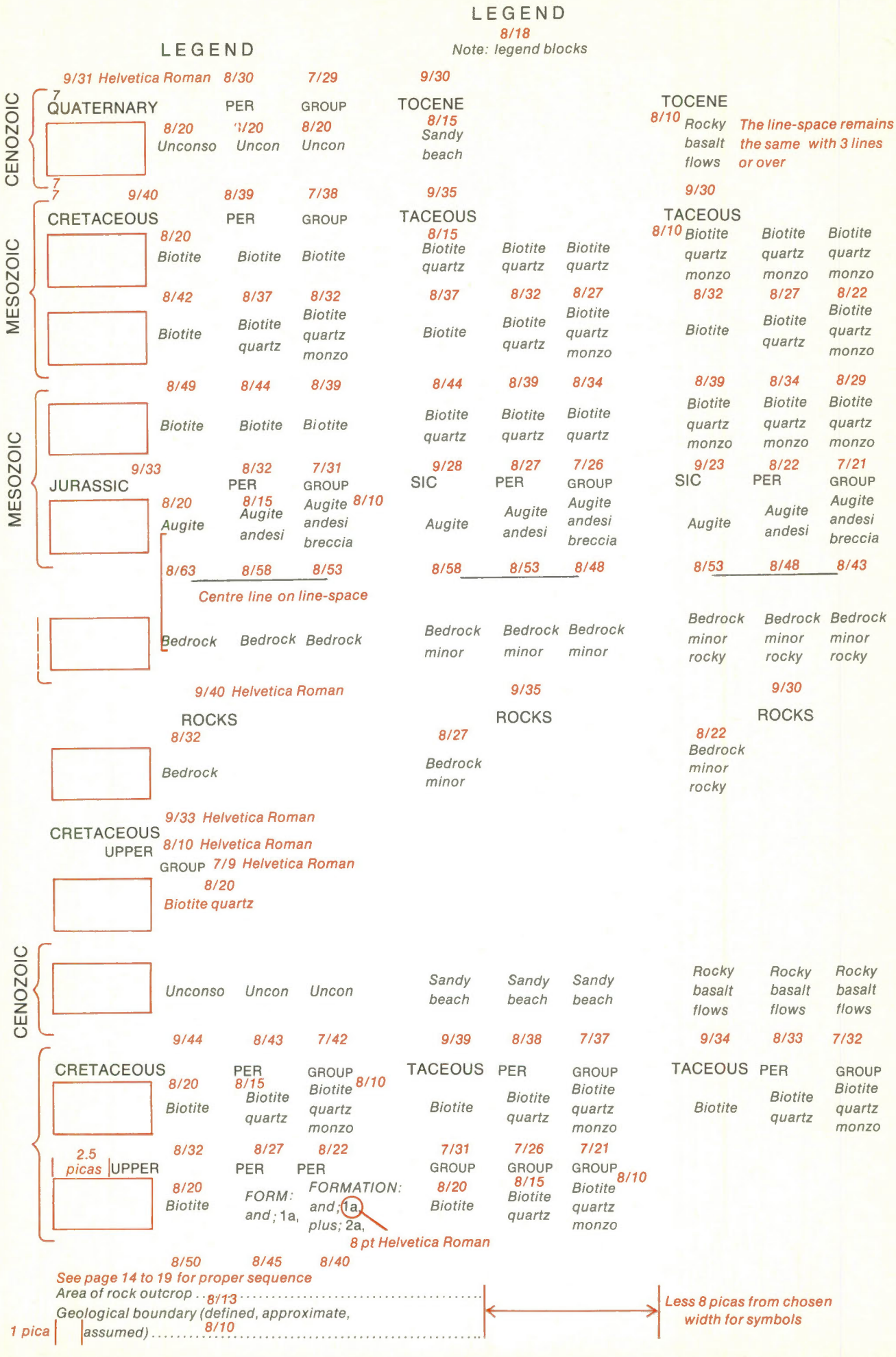
8/39		
Sandy beach	*Sandy beach*	*Sandy beach*
8/52	*8/47*	*8/42*
Quartz	*Maroon green*	*Grey thin-be black*

LEGEND

8/34		
Rocky basalt flows	*Rocky basalt flows*	*Rocky basalt flows*
8/47	*8/42*	*8/37*
Quartz	*Maroon green*	*Grey thin-be black*

See page 40 for preparation

Layout of legend as prepared for Linofilm (cont.)



Layout of legend as prepared for Linofilm (cont.)

Centre 9/30 Helvetica Roman

MINERALS

Beryl ..... 8/15 by
Gold ..... 8/13. Au

2 picas

Silver ..... Ag
Tourmaline .....

8 pt Helvetica Bold

8/30

8 picas

Geology by ..... 1968 or 1967, 1968 or 1967, 1969
or if continuous 1967-1970 8/10

8/30

To accompany Memoir or Bulletin ..... by .....

8/30

(Any supplementary information concerning geology should be inserted here)

Geological cartography by the Geological Survey of Canada

8/30

Any revisions or additional geological information known to the user
8/10 would be welcomed by the Geological Survey of Canada

8/30

(Topographical map name should appear in note if different from Geological map)

See page 21 to 25 for proper sequence

Roads .....
Cart track 8/13
Marsh.....

(applies when the base-map is credited to the Geological Survey of Canada)

One of these notes should appear in legend

Base-map used without redrafting

8/30

Base-map at the same scale published by ..... in .....
If revised add: Roads or streams or marshes, etc. .... were revised by the Geological Survey of Canada for this edition

Redrawn base-map

Base-map cartography by the Geological Survey of Canada from maps published at 1/ ..... scale by ..... in .....

Base-map cartography by the Geological Survey of Canada from part(s) of 1/ ..... scale map(s) .....
(N.T.S. number(s)) published by ..... in .....

8/30

"Published" should be used where base-map is drawn by the Geological Survey from published maps; if from unpublished maps or from compilation, instead of "published" use "compiled"

Credit notes may apply to: the Surveys and Mapping Branch, the Army Survey Establishment, R.C.E., or any provincial organization or mining company

Copies of the topographical edition of this map may be obtained from the Map Distribution Office, Department of Energy, Mines and Resources, Ottawa
(if base-map is at the same scale)

One of these notes should appear in legend

1/50,000 1/25,000

8/30

Approximate magnetic declination 1970, 29°37' West, decreasing or increasing 2.9' annually

1/250,000, 1/500,000 1/1 000,000

Mean magnetic declination 1970, 24°38' East, decreasing or increasing 5.3' annually. Readings vary from 21°54' in the SE corner to 27°18' in the NW corner of the map-area

Magnetic declination 1970 varies from 05°34' easterly at centre of west edge to 08°20' easterly at centre of east edge. Mean annual change 08' easterly or + 0.8' 0.8' westerly —0.8'

8/30

The Quebec-Newfoundland boundary has not been surveyed and monumented on the ground at date of publication

8/30

Elevations in feet above mean sea-level
(applies when the base-map is credited to the Surveys and Mapping Branch or the Army Survey Establishment, R.C.E.)

(Any supplementary information concerning topography should be inserted here)

Sample of Descriptive Notes as prepared for Linofilm

DESCRIPTIVE NOTES 10 Pt Helvetica Roman (caps)

← Justify to 18 picas →

9/9 Trade Gothic Light (c.+c.)

Less 1 pica → The map-area lies across the boundary between the Central Paleozoic Mobile Belt and the Avalon Platform[1,2], the boundary passing beneath Hermitage Bay, where it is interpreted as a fault[3], and presumably extending southwestward south of Penquin Islands. Rocks (7,11) north of the boundary are typical of the regional metamorphic terrane and granitic intrusions that characterize the eastern margin of the Central Paleozoic Mobile Belt and that continue 120 miles along trend to the northeast coast of Newfoundland[4,5]. To the south lie intrusive rocks (10,11) and the relatively unmetamorphosed volcanic rocks (1) on Plate Islands. 9/22

Circled Nos. 6 Trade Gothic Light

Rocks of the Baie d'Espoir Group (3), (originally Baie d'Espoir Series[7]), are for the the most part regionally metamorphosed throughout the map-area but they can be traced northeastward into less metamorphosed equivalents, which extend all the way to the northeast coast of Newfoundland[5]. The rocks are unfossiliferous in the map-area but geologists of the Newfoundland and Labrador Corporation discovered a poorly preserved probable Ordovician gastropod (?Eotomaria sp.) 9 miles east of the map-area at Barasway de Cerf in Bay d'Espoir (W.B. Dunlop, pers. comm., 1962), and more recently crinoidal debris and Streptelasma, suggesting an Ordovician or later age were found near St. Albans (F.D. Anderson, pers. comm., 1967).

Underlined words 9 Helvetica Italic (c.+c.)

5/6 Trade Gothic Light (c.+c.)

Less 1 pica →

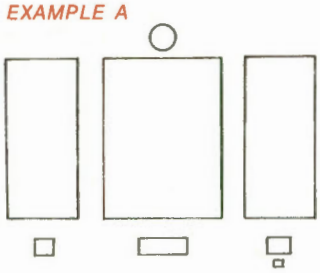
1. Williams, Harold: Silurian rocks of Newfoundland; Geol. Assoc. Can., Paper No. 4, pp. 93-138 (1967). 5/16

2. Williams, Harold: The Appalachians in northeastern Newfoundland A two-sided symmetrical system; Am. J. Sci., vol. 262, pp. 1137-1158

3. Anderson, F.D : Belleoram map-area, Newfoundland; Geol. Surv. Can., Map 8-1965 (1965).

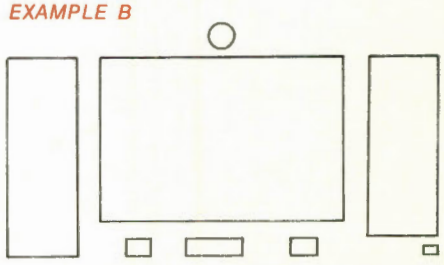
NOTE: Descriptive Notes are on east side of map, minimum distance .5" from outside border. As legibility becomes critical over 6 inches, width should not exceed 5 inches for a single column. If two columns are needed, calculation should be made to obtain two equal columns (see example). In all cases, the lines should be justified

EXAMPLE A



In half sheets, notes do not extend beyond north and south outside border

EXAMPLE B



In full sheets, notes do not exceed north outside border but can extend to the folding title (see page 5)

Calculation of Descriptive Notes

GIVEN DATA

Height of map e.g. 17 inches –
Number of characters counted in typewritten descriptive notes e.g. 13,000
Linofilm characters 8/9 Trade Gothic Light

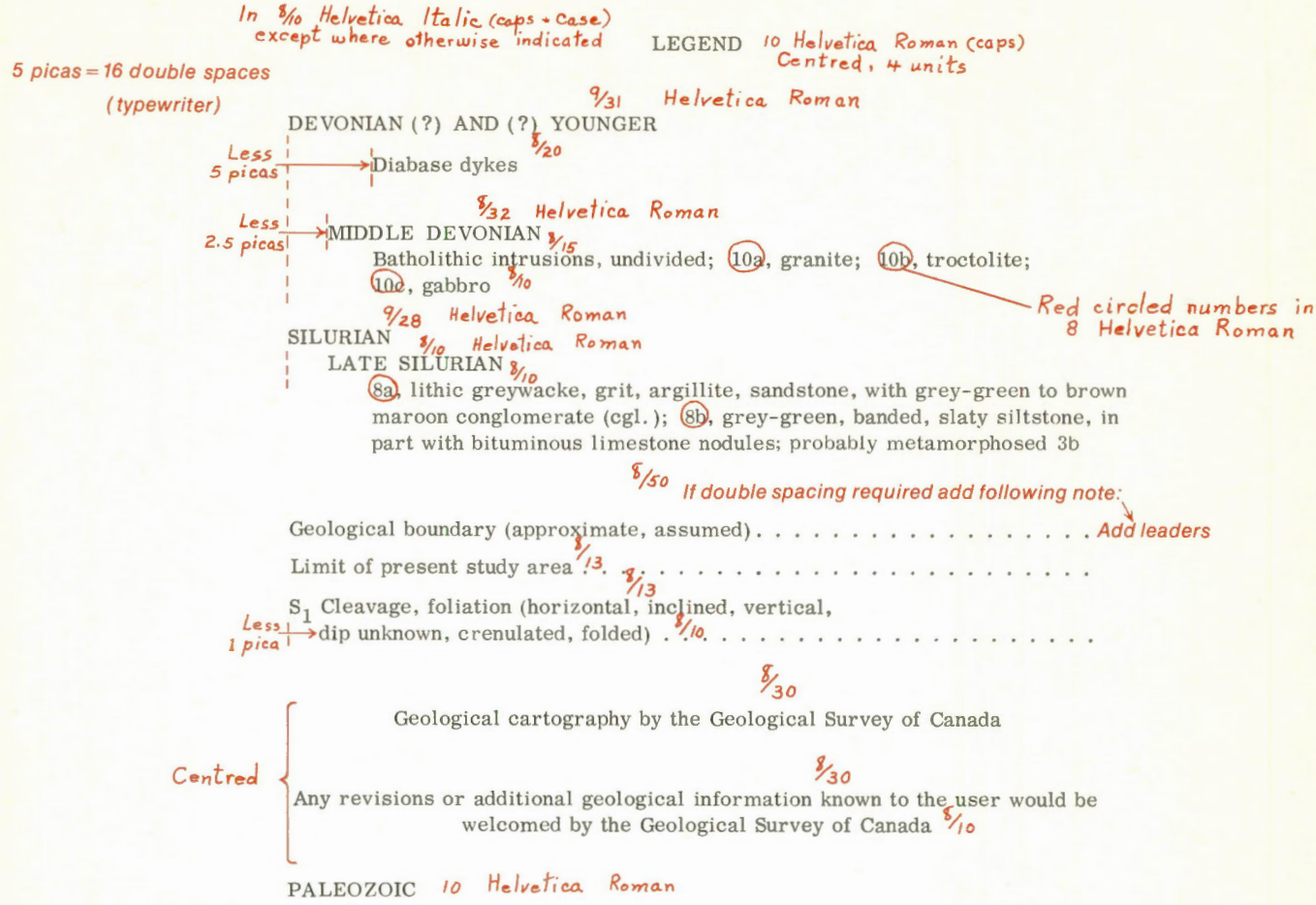
CALCULATION

Length of notes 17"x72 = 1224 points *1,224/9 = 136 lines of characters*
13,000/136 = 95.58 characters-per-line *95.58/3.1 = 30.83 picas* *30.83/6 = 5.13 inches*
Maximum width of Descriptive Notes being 5 inches, it should be printed in two 3 inch columns
3x6 = 18 picas *18x3.1 = 55.8 characters-per-line* *13,000/55.8 = 232.9 or 233 lines of characters*
233x9 = 2097 points *2,097/72 = 29 inches* *29/2 = 14.5 inches*
Length of notes in two columns: 14.5 inches

See page 36 for final product from linofilm

See page 41 for points and picas specifications

Samples of legend as prepared for Linofilm



NOTE: Legend is on west side of map, minimum distance .5" from outside border. There is no limitation of width for legend, however a single column legend should be restricted to 40 picas (maximum size for linofilm - 42 picas). For layout of legend see A and B diagrams on page 39. Parts of legend may well be positioned on either side of title under REFERENCE (see page 5) or inside the map

Calculation of Legend

GIVEN DATA

Height of map + bottom margin e.g. 21 inches

CALCULATION

Estimate width of legend as represented on mss. Count characters in longest line e.g. 66
Divide by 3 (see page 41) 66/3 = 22 picas Width 22/6 = 3.6 inches
Estimate length of legend e.g. 1595 pts for blocks + 228 pts for symbols and notes Length $\frac{1595+288}{72\ pts}$ = 26 inches

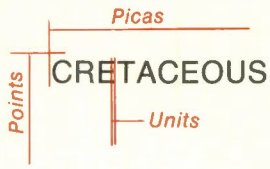
Width and length of mss. legend converted in linofilm measurements are respectively 3.6 and 26.0 inches
As maximum height of legend is 21" (Given data) we have $\frac{26 \times 3.6}{21}$ = 4.45 inches. As an even figure would be better and to reduce the length of the legend for sufficient scope, increase 4.45 to 5 inches. The length of the legend will be reduced to $\frac{26 \times 3.6}{5}$ = 18.72 inches. Linofilm Print - Width of legend = 5 inches or 30 picas
- Length of legend = 18.72 inches

Order linofilm from a typewriter copy being exactly the same, line for line as the print to be received.
Calculate the width of the typewritten legend e.g. 5 inches or 30 picas will convert to 30x3 = 90 characters (linofilm) 90 typewriter characters will extend to 90/12 (see page 41) = 7.5 inches. The typewritten legend should not exceed 7.5 inches in width. The use of hyphens should be avoided at the end of the lines

See pages 36, 37, 38 for legend specifications

LINOFILM AND TYPEWRITER

Specifications for Linofilm



1 inch = 6 picas (approximately)

A pica is the unit of length of a line. The number of picas can be calculated by adding the characters in a line. The following table gives the values for the type faces used in legends and descriptive notes.

CHARACTER-PER-PICA FIGURES

Type face	Capital	Lower case	Combination
7 point Helvetica Roman	2.7	3.4	3.4
8	2.4	3.0	3.0
9	2.1	2.7	2.65
10	1.9	2.4	2.4
8 point Helvetica Italic	2.3	3.0	3.0
9	2.1	2.7	2.65
6 point Trade Gothic Light	3.2	4.1	4.05
8	2.4	3.1	3.05
9	2.1	2.7	2.65

For additional information see Linofilm Book on Photo-composition

Maximum printing width in Linofilm is 42 picas or approximately 7 inches

1 inch = 72 points (approximately)

A point is the unit of height for a line or for a distance between two lines. Points are always calculated as ascending

Diagram A shows the extent of the letters in a 24 pt size type and the extent of the distance between 2 lines with 2 pt space. It also shows the principle of ascending for calculation of points. Note no line-space is indicated on the first line

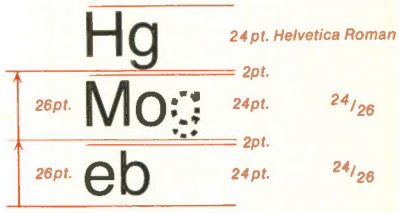
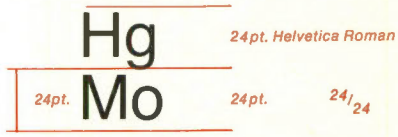


Diagram B shows the extent of the letters in a 24 pt size type with no space between the lines



1 unit = 1/18 of the point size (e.g. In 18pt 1 unit = 18/18 = 1pt — In 6pt 1 unit = 6/18 = .33pt In 9pt 1 unit = 9/18 = .5pt etc. . .)

Standard spacing between words is 4 units for lower case and 8 units for capitals

Specifications for Typewriter

Electric Typewriter (IBM, Executive, Bold Face #2) Unit type = 1/36 inch

All lower case characters, punctuation marks and symbols are 3 units (1 inch = 12 characters) except f,l,i,t,j ; = 2 units — W = 4 units — m = 5 units

All upper case characters, punctuation marks and symbols are 4 units (1 inch = 9 characters) except (): = 2 units — SJ-+ = 3 units — WM = 5 units

Proportional spacing 2 units Space Bar (can be back spaced to 1 unit) 1 inch = 16 double spaces (2 units Space Bar)

Manual Typewriter 1 inch = 12 uniform lower and/or upper case characters, and/or spaces

PHOTOMECHANICAL SPECIFICATIONS AND AVAILABLE MATERIALS

Photomechanical equipment

Equipment	Accuracy	Maximum size of image		Ratio		
		Original	Pos. Neg. film	Enlargement	Same Scale	Reduction
Lanston Monotype Process Camera	.01%±	56x60	39x47	1:8		1:.23
Nuarc Process Camera	.1%±	26x36	18x22	1:3		1:.20
Douthitt Vacuum Print Frame		60 x no limit	48x60		1:1	
Nuarc Vacuum Print Frame		42x52	42x52		1:1	
White Printer	None, use frame	42 x no limit	42 x no limit		1:1	
Xerox 7000	None	Paper size 8½x11 8½x14			1:1	1:.85 1:.77 1:.65 1:.615

Photomechanical products

Note: This list of available materials should not be considered as final. Advise from the photographer is recommended as new materials or new applications of the existing products may occur

	Manufacturer and code #	Common Name	Pos.	Neg.	Description	Base	Thick	Width in inches	Roll length	
FILMS	Kodak 4556	Clear	v	v	Clear	Stable	.007	up to 48	100 ft	For best quality, Line and halftone
	Kodak EP7	Matte	v		Translucent	Stable	.007	up to 48	100 ft	For good quality Line and halftone
	Kodak 4575	Clear autopositive	v	v	Clear	Stable	.007	up to 48	100 ft	For med. quality Line or tone
	Kodak 4578	Matte autopositive	v		Translucent	Stable	.007	up to 42	100 ft	For med. quality Line or tone
	Stripping Film	Stripping	v	v	Clear	Removable	.001	20x24 sheet		For patching
	Kodak 3556	Thin	v	v	Clear	Not stable	.002	up to 24	100 ft	For patching
	Kodak 4127	Continuous tone	v	v	Clear, low contrast	Stable	.007	28x36 sheet		For air photo etc. . . . . Camera only
	(See page 74)	Colour key	Any colour		Matte Stabilene Cronaflex	Stable	.0075 .0075	(See page 74)		Contact only
	K+E 3497	Sensitized peelcoat		etched neg.	Orange emulsion	Stable	.007	30x40 sheet 40x48 sheet		Exposure from neg For artificial negs.
	Kodak PMT (F)	Transfer film	v	v	Clear	Not stable	.004	8x10 sheet		Camera or contact Pos. to Pos. Neg. to Neg.
	Kwikproof	Proof plastic	v		Opaque, white	Stable	.010	54x60 sheets		For multicolour Proofs Contact only
	Technifax K-MAX	Intermediate film	v	v	Sepia, transparent	Not stable	.005	up to 40	20 yd	For working duplicate neg. or pos. Pos. to Pos. Neg. to Neg.

PHOTOMECHANICAL SPECIFICATIONS AND AVAILABLE MATERIALS

Photomechanical products

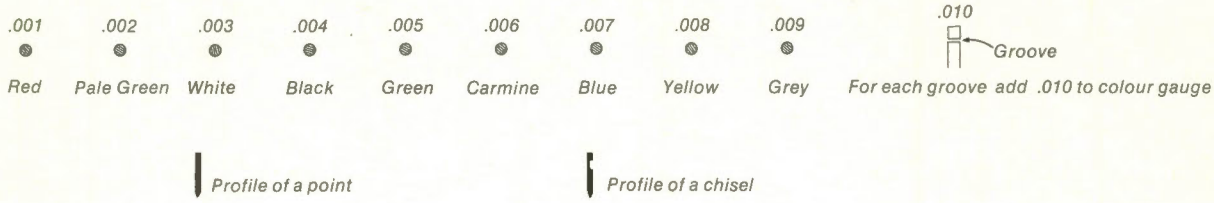
Note: This list of available materials should not be considered as final. Advise from the photographer is recommended as new materials or new applications of the existing products may occur

M.W. = medium weight L.W. = light weight

	Manufacturer and code #	Common Name	Pos.	Neg.	Description	Base	Thick	Width in inches	Roll length	
FILMS										
PAPERS	Kodaline	Resin Paper	v	v	Waterproof Opaque	Not stable	M.W.	40	100 ft	For best quality, non folding
	AD Type	AD Type	v	v	Opaque	Not stable	M.W.	42	100 ft	For med. quality folding
	Vandyke	Heavy Vandyke Thin Vandyke	v	v	100% rag, dark brown image	Not stable Not stable	M.W. L.W.	up to 42	50 yd	For med. quality folding
	Kodak PMT (P)	Transfer paper	v	v	Very white Opaque	Not stable	M.W.	8x10 sheet 18x24 sheet		Good quality Cam. or frame Pos. to Pos. Neg. to Neg.
	Xerox	Xerox	v		#4 Bond Opaque	Not stable		8½x11 sheet 8½x14 sheet		For lesser quality Pos. to Pos. Neg. to Neg.
	Hughes Owens 01197-6	Ozalid	v	v	Dark purple image	Not stable	M.W.	up to 42	50 yd	For lesser quality depending on original
	Tecnifax 42 T	Intermediate	v	v	Translucent sepia	Not stable	M.W.	up to 42	50 yd	For medium quality, reverse emulsion
	Hughes Owens Ltd	Blue Line	v		Strathmore board	Not stable	2 ply 4 ply	(See page 74)		Contact only

DRAFTING AND SCRIBING

Gauge code



Material	Manufacturer and code #	Thick	Width in inches	Length	Purpose	Remarks
Unsensitized peelcoat	K*E 445407	.0075	36	20 yd roll		For artificial negative
Scribecoat white or rust	K*E 44 3147	.0075	36 42 48	20 yd roll	Scribing	
Stabilene transparent	K*E 44 1017	.0075	36 42 48	20 yd roll	Overlay	Not suitable for pencil. Surface has to be erased before inking
Stabilene matte one side	K*E 44 1057	.0075	36 42 48	20 yd roll		Recommended for water coat Replaces Cronaflex over 42 inches
Cronaflex	Dupont of Canada Ltd UC4 UC7	.004 .007	24 36 42	100 ft roll	Drafting pencil and ink	UC4 Very poor for field mss UC7 Good for stability
Trutrace	Hughes Owens Ltd 159 99 99	.003	36 42	20 yd roll	Checking	Not stable, tears easily
Strathmore board smooth surface, plain edge	Hughes Owens Ltd	2 ply	30x40 sheet		Drafting	Not stable
Mounting Board	Hughes Owens Ltd 1091		40x60 sheet		Display	Not suitable for drafting

GENERAL PROCEDURE FOR MAPS PRODUCED BY THE GSC

	PRELIMINARY MAPS	FINAL MAPS
DESCRIPTIVE NOTES	Descriptive Notes for preliminary maps are published in the Paper Series Remarks: If new topo names are required by Author or labelled on manuscript Note "Geographical names ..." should appear in legend	■ Indicates same operation as on preliminary map – List names in notes – Check names on topo sheet(s) – Send topo sheet(s) and letter to toponymy (additional and revised names in red ink) – When received from toponymy make changes in Notes accordingly ■ Send for translation (if necessary) – Send to Linofilm (see page 39 for preparation) Obtain film positive
TEXT	PAPER – Accept as it is – Return to Editorial as soon as possible Remarks: If new topo names are required by Author or labelled on manuscript, Note "Geographical names ..." should appear in legend	MEMOIR, BULLETIN – Text is read by Editor and a list of topo names is supplied to drafting – Check names on topo sheet(s) – Send topo sheet(s) and letter to toponymy (additional and revised names in red ink) – After received from toponymy, list revised names and send it to the Departmental Publishing Office – Return text to Editorial when compilation is completed

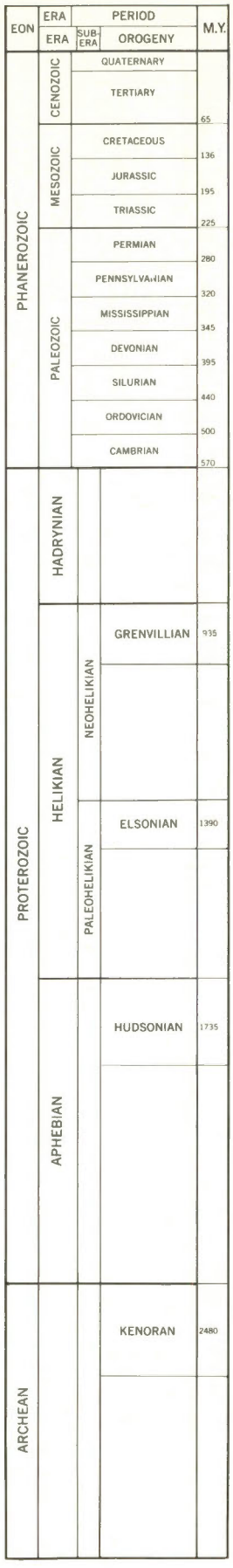
GENERAL PROCEDURE FOR MAPS PRODUCED BY THE GSC

BASE-MATERIAL	–Find scale, sketch map and indicate lat. and long. on pink sheet in file –Obtain negatives from S & M, grip them and mask unnecessary topo information in margin –Order prepunched film positive of Black, blue, brown (combined) Blue mask Grey, red, etc. ... (combined) –If a mosaic has to be prepared, calculate and plot projection on transparent stabilene film (UTM 1/250,000 and under, Lambert conformal 1/500,000 and over) –Join positives on projection, grip them –Clean negatives and return to S & M –Obtain Magnetic declination –Obtain list of adjoining Geological Maps (same scale, preliminary or final, same series). Prepare NTS Index	■ Find scale, sketch map and indicate lat. and long. on pink sheet in file ■ Obtain negatives from S & M, grip them and mask unnecessary topo information in margin, retain border if close to GSC standards –Order Thick, prepunched film positives of Black, blue, brown (linework separate from names and numbers), Blue mask, Grey and red Thin film positives of names and numbers of Black, blue, brown ■ If a mosaic has to be prepared, calculate and plot projection on transparent stabilene film (UTM 1/250,000 and under, Lambert conformal 1/500,000 and over) ■ Join positives on projection, grip them If necessary (due to reduction, difference of weight in linework, up-dating of base, etc....) transfer image on prepunched scribecoat and scribe Black, Blue and Brown or only one or two of them as needed ■ Clean negatives and return to S & M –Prepare list of topo names, if necessary, send it to linofilm ■ Obtain Magnetic declination ■ Obtain list of adjoining Geological Maps (same scale, preliminary or final, same series) Prepare NTS Index
MANUSCRIPTS AND GEOLOGICAL MATERIALS	Depending on quality of author's manuscript choose one of the two following procedures: Manuscript not suitable for impression on scribecoat (heavy colouring on paper print, different base material, references or symbols to be replaced etc. ....) Manuscript acceptable for impression on scribecoat –Send transparent mss to obtain autopositive (retain geology only) –Check all components: Map, Cross-section, Legend, Descriptive Notes, Overlay –If necessary a layout of map including cross-section, legend, title, notes, descriptive notes should be made on pink sheet at this stage (watch for map size and length of legend, notes, etc. ....) –Check length of section compared to mss If cross-section is not questioned by Editor, it should be accepted as it is and called "Diagrammatic" –Prepare cronaflex according to layout, grip it –Prepare autopositive according to layout, grip it –Compile map, cross-section, legend. Ink-in linework, patch on numbers and letters –Compile map, cross-section, legend. Fix linework, make alterations –Obtain information from author, make corrections –Send legend for typing (see pages 32, 33) –Send legend for translation (if necessary) –First check a colour copy on cronaflex should be considered as a good means of checking, a guide for scribing, –Make corrections –Obtain a diazo image on scribecoat using Geology = 100% Topo base = 80% Water mask = 40%	Same procedure as on preliminary maps, however draftsmen should spend more time on final maps to keep our high standards Depending on quality of author's manuscript choose one of the two following procedures: Manuscript not suitable for impression on scribecoat (heavy colouring on paper print, different base material, references or symbols to be replaced etc. ....) Manuscript acceptable for impression on scribecoat –Send transparent mss to obtain autopositive (retain geology only) ■ Check all components: Map, Cross-section, Legend, Descriptive Notes, Overlay ■ If necessary a layout of map including cross-section Legend, title, notes, descriptive notes should be made on pink sheet at this stage (watch for map size and length of legend, notes etc. ...) ■ Check length of section compared to mss If cross-section is not questioned by Editor, it should be accepted as it is and called "Diagrammatic" –Prepare cronaflex according to layout, grip it –Prepare autopositive according to layout, grip it –Compile map, cross-section, legend. Ink-in linework, letters and numbers –Compile map, cross-section, legend. Fix linework, make alterations ■ Obtain information from author, make corrections ■ Send legend for typing (see page 32,33 ■ Send legend for translation (if necessary) –Send legend to linofilm (see pages 36, 37, 38) ■ First check (a colour copy on cronaflex should be considered as a good means of checking, a guide for scribing, and for colour separation ■ Make corrections ■ Obtain a diazo image on scribecoat using Geology 100% Topo base 80% (not including brown) Water mask 40%

GEOLOGICAL TIME TABLE

Official symbols and suggested colours

CENOZOIC	TQ
QUATERNARY	Q
TERTIARY	T
MESOZOIC	M
CRETACEOUS	K
JURASSIC	J
TRIASSIC	Ŧ
PALEOZOIC	P
PERMIAN	P
CARBONIFEROUS	C
PENNSYLVANIAN	Ƥ
MISSISSIPPIAN	M
DEVONIAN	D
SILURIAN	S
ORDOVICIAN	O
CAMBRIAN	Ꞓ
PRECAMBRIAN	Ᵽ
PROTEROZOIC	P
HADRYNIAN	H
HELIKIAN	H
NEOHELIKIAN	N
PALEOHELIKIAN	ℙ
APHEBIAN	A
ARCHEAN	A



Colours	Colour Crayons Eagle Verithin	*Prismacolor
Yellow	*Lemon Yellow*	*735½*
Yellow, Grey	*Olive Green*	*739½*
L. Green	*Light Green*	*738½*
Blue Green	*Grass Green*	*738*
D. Green	*Dark Green*	*739*
D. Grey	*Warm Grey Medium*	*962**
M. Grey	*Dark Grey*	*747½*
L. Grey	*Light Grey*	*734½*
L. Blue	*Sky Blue*	*740½*
Blue Grey	*Sky Blue*	*919**
D. Blue	*Ultramarine Blue*	*740*
D. Blue Grey	*Slate Grey*	*936**
Orange Brown	*Orange Ochre*	*736½*
Orange	*Orange*	*737*
D. Brown	*Sienna Brown*	*746*
Grey-Carmine	*Tuscan Red*	*746½*

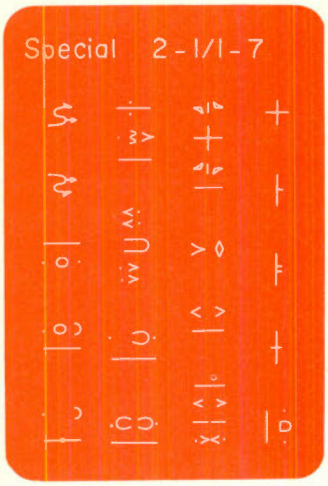
Granite	*Carmine*	*Pink 743*
Limestone	*Purple*	*Lavender 742½*

Tendensy is to use subdivisions of Period in 1:1,000,000 scale map and over
e.g. MIDDLE DEVONIAN = MD

In detailed maps, subdivisions of Period are omitted, but Groups, Formations etc ..... are described
e.g. MIDDLE DEVONIAN NAHANNI FORMATION = Dn or
HELIKIAN LITTLE DAL FORMATION UPPER MEMBER = Hldu

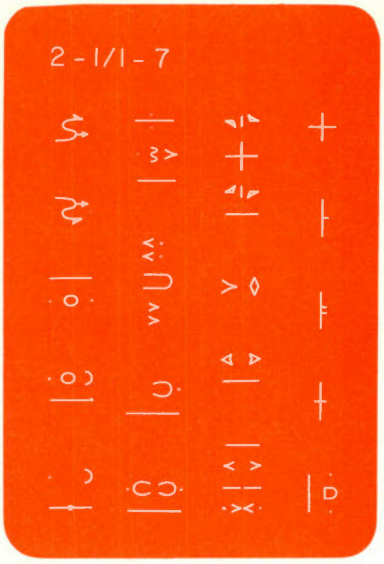
SAMPLES OF TEMPLATES

NO REDUCTION
(Heavy Geological information)



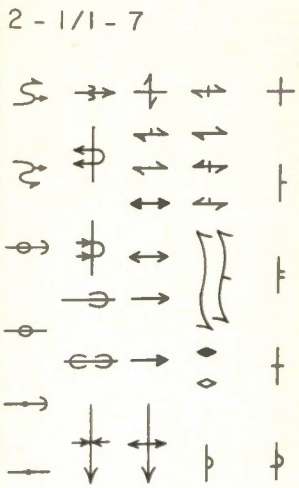
#Special 2 Cut. 7

NO REDUCTION



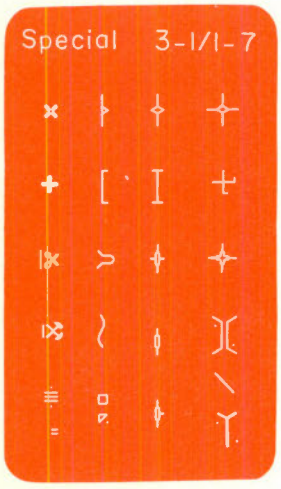
#2 Cut. 7

AS SCRIBED
(No reduction)



3 TO 2 REDUCTION

#2 Cut. 10



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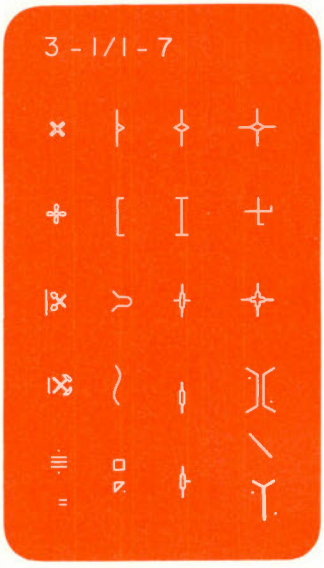

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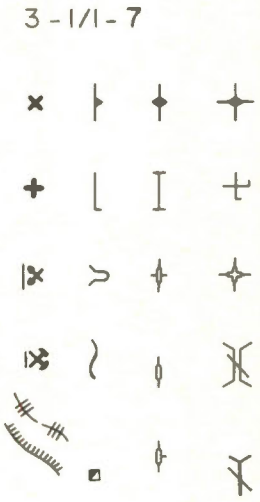
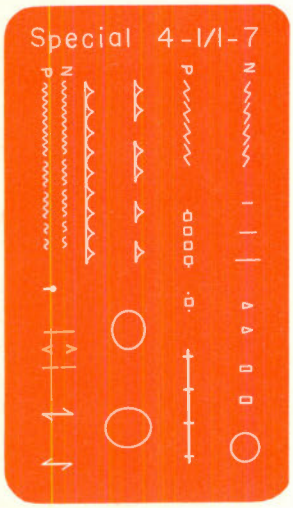


#3 Cut. 10



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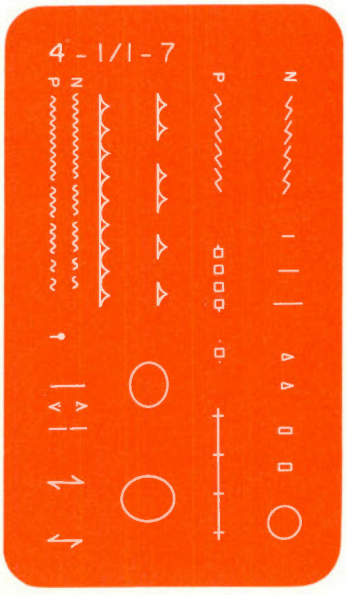

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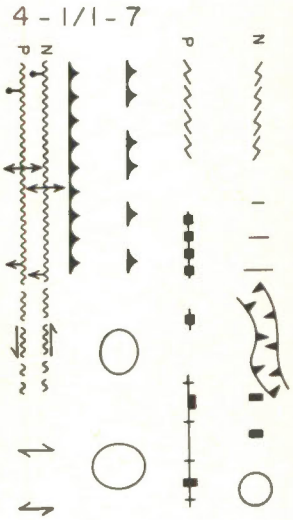
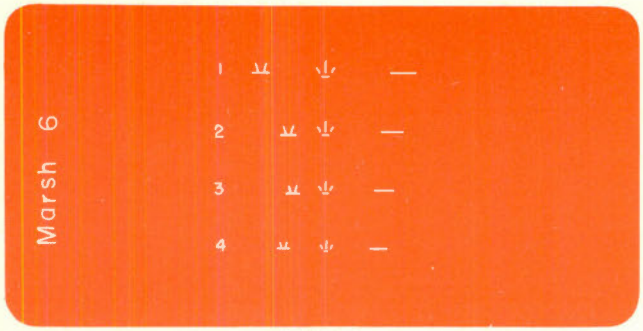


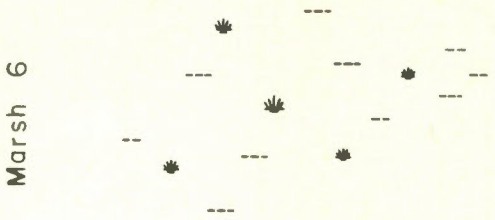
#4 Cut. 10

SAMPLES OF TEMPLATES (continued)

AS SCRIBED



#Marsh 6



CREX

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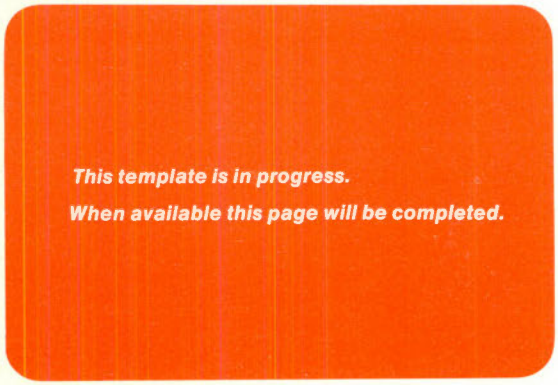
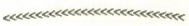
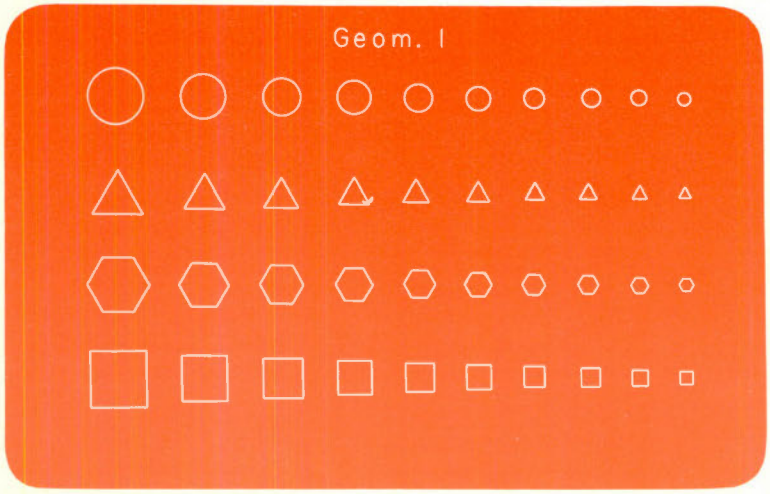
(Different sizes)



Esker



(Different sizes)



#Geom 1

#Geom 2

ABBREVIATIONS

NOTES: The legal titles of corporate names should not be abbreviated unless they appear in such form in the corporate name. Periods and spaces are omitted from certain United Nations and government agencies and corporations and other organizations (NATO, RCAF). Canada land designation; NE ¼sec., tp 22, rge.7, W. 3rd. mer.

For more information see Can. Gov. STYLE MANUAL pp.28- 34 or GSC Guide for Preparation of Geological Maps and Reports pp.18-20 and pp.34-39.

Drop period after abbreviation within map-area

Abandoned	Abd.
Abbreviated	Abbr.
Abridged	Abr.
Abstract	Abs.
Airstrip	Airst.
Alaska	(not abbreviated)
Anticline	Ant.
Approximately	Approx.
Archipelago	Arch.
Association	Assoc.
and others	et al.
and the rest	etc.

Bay	B.
Boulder	Boul.
Boundary	Bdy.
Braided Channel	Br. Chan.
Branch	Br.
Bridge	Br.
British Columbia	B.C.
Brook	Br. or Bk.
Building	Bldg.
Bulletin	Bull.
Bureau	Bur.

Canada	Can.
Canal	Can.
Canyon	Can.
Cape	C.
Capitals and lower-case	C.&lc.
Cemetery	C.
Centigrade	C.
Centimetre	cm.*

Channel	Chan.
Chapter	Chap.
Commission	Comm.
Concession	Con.
Continued	Cont.
County	Co.
Cove	C.
Creek	Cr.
Crossing	Cross.

Dam	D.
Definition	Def.
Department	Dept.
District	Dist.
Division	Div.

East	E.
Economic	Econ.
Edition	Ed.
Elevation	Elev. or El.
Establishment	Est.

Fall	F.
Fathom	Fm.
Fault	F.
Ferry	Fy.
Figure	Fig.
Fiord	Fd.
Foot, Feet	Ft.

Ford	Fd.
Fork	Fk.
Fort	Ft.

General	Gen.
Geochemistry	Geochem.
Geographical	Geograph.
Geology	Geol.
Geophysics	Geophys.
Glacier	Gl.
Glaciology	Glaciol.
Government	Govt.
Gravel	Gra.
Gravel Pit	Gra. P.
Group	Gp.
Gulch	G.
Gulf	G.

Harbour	Har.
Head	Hd.
Height	Ht.
Highway	Hwy.

Idaho	(not abbreviated)
Inch	In.
Indian Reserve	IR.
Industry	Ind.
Inlet	In.
International	Intern.

**Abbreviation of length unit to be capitalized when used on scale*

Island (s) — I.,(Is)
Islet — It.
Isthmus — Isth.,I.

Journal — J.
Junction — Jct.

Kilometre — km.*

Laboratory — Lab.
Lagoon — Lag.
Lake — L.
Landing — Ldg.
Latitude — Lat.
Lighthouse — LH.
Literary — Lit.
Loch — L.
Longitude — Long.
Lot — L with no.

Maine — (not abbreviated)
Magnetic — Mag.
Manitoba — Man.
Manuscript, manuscripts — MS., MSS.
Maximum — Max.
Mean Sea-Level — M S-L.
Memoir — Mem.
Memorandum — Memo.
Meridian — Mer.
Metre — m.*

Michigan — Mich.
Mile — M.
Mile-Post — M-P.
Millimetre — mm.*
Minimum, minute — Min.
Minnesota — Minn.
Miscellaneous — Misc.
Montana — Mont.
Mount — Mt.
Mountain(s) — Mtn.(s)
Municipality — Mun.

Narrows — Nar.
National — Nat.
New Brunswick — N.B.
Newfoundland — Nfld.
New Hampshire — N.H.
New York — N.Y.
North — N.
Northeast — NE.
Northwest — NW.
North Dakota — N. Dak.
Northwest Territories — N.W.T.
Note Well — N.B.
Nova Scotia — N.S.
Number — No.

Obsolete — Obs.
Ohio — (not abbreviated)
Ontario — Ont.
Original — Orig.

Page, pages — P., pp.
Parish — Par.

Passage — Pass.
Peak — Pk.
Peninsula — Pen.
Pennsylvania — Pa.
Plateau (x) — Plat.
Point — Pt.
Pond — Pd.
Port — P.
Portage — P.
Post Office — P., Po.
Preliminary — Prelim.
Prince Edward Island — P.E.I.
Promontory — Prom.
Province — Prov.
Publication — Publ.

Québec — Qué.

Railway (s) — Ry.(s)
Range (Mtn) — Rge.
Range (Cadastral) — R.
Rapids — R.
Reef — Rf.
Reference — Ref.
Region — Reg.
Report — Rept.
Research — Res.
Reservoir — Res.
Review — Rev.
Revise — Rev.
River — R.
Road — Rd.
Rock — Rk.

*Abbreviation of length unit to be capitalized when used on scale

Saint, Street ____ St.
Sand ____ Sd.
Saskatchewan ____ Sask.
Second, Section ____ Sec.
Series ____ Ser.
Settlement ____ Sett.
Shoal ____ Sh.
Sound ____ Sd.
South ____ S.
Southeast ____ SE.
Southwest ____ SW.
Spring ____ Spr.
Station ____ Sta.
Strait ____ Str.
Stream ____ Str.
Structure ____ Struct.
Supplement ____ Supp.
Survey ____ Surv.
Syncline ____ Syn.

Technical ____ Tech.
Telegraph, Telephone ____ T.
Terrestrial ____ Terrest.
Territory ____ Terr.
Thrust Fault ____ Thrust F.
Township ____ Tp.
Trading Post ____ Tr.
Trail ____ Tr.
Translation ____ Transl.
Transpose ____ Trs.
Tributary ____ Trib.

United States ____ U.S.A.
Unmapped ____ U.
Upper and Lower (case) ____ U&L.

Valley ____ Val.
Vermont ____ Vt.
Vertical ____ Vert.
Village ____ Vil.
Volume ____ Vol.

Washington ____ Wash.
West ____ W.
Wharf ____ Wh.

Yard ____ Yd.
Year ____ Yr.
Yukon Territiory ____ Y.T.

AMENDMENTS

PAGE	DATE	REMARKS

AMENDMENTS

PAGE	DATE	REMARKS

AMENDMENTS

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AMENDMENTS

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AMENDMENTS

PAGE	DATE	REMARKS