GEOLOGICAL SURVEY OF CANADA
DEPARTMENT OF ENERGY, MINES AND RESOURCES

LEGEND

CENOZOIC

QUATERNARY

POST-FRASER GLACIATION
NON-GLACIAL

- A — MODERN ALLUVIUM: *sand, gravel, silt, and minor muck and peat; at or near present base-level (floodplain, channel, delta, and shoreline deposits)*
- F — *FAN DEPOSITS: poorly sorted gravel, sand, silt, and clay*
- B — *BOG DEPOSITS: muck, mucky peat, marl, and peat*
- S — *LANDSLIDE DEPOSITS: blocks and rubble, mainly bedrock*
- AF — *ALLUVIUM-FAN COMPLEX: sand, gravel, silt, and muck and peat*

FRASER GLACIATION
KAMLOOPS DRIFT

LACUSTRINE ENVIRONMENT

- L — *LACUSTRINE DEPOSITS UNDIFFERENTIATED: silt, clay, and sand*
- Lt Lv — *LACUSTRINE DEPOSITS: silt with minor clay and sand; Lt, deposits thick enough to mask underlying topography (generally more than 10 feet thick); Lv, thin veneer not masking underlying topography (generally less than 10 feet thick)*
- Lx — *LACUSTRINE COMPLEX: silt, sand, and gravel; complex of deep water and shoreline deposits and features*
- Lc — *COLLAPSED LACUSTRINE DEPOSITS: silt, sand, clay, and minor gravel; ridged and kettled deposits disrupted by melting of underlying ice*

FLUVIAL ENVIRONMENT

- T — *TERRACE DEPOSITS: gravel, sandy gravel, and sand; Ts, stream terrace; Td, delta terrace*
- Tk — *KETTLE TERRACE DEPOSITS; gravel sandy gravel, and sand; terrace form broken by kettle holes; includes kettled stream terrace; kame terrace; and kettled delta terrace*
- W — *RILL COMPLEX: lag gravels, channel-bottom gravels, areas of unmodified till, small areas of hummocky gravel, and local pockets of backwater silt (in general morainal deposits washed and channelled by meltwater)*
- H — *HUMMOCKY GRAVELS; poorly sorted gravel and sand characterized by irregular hummocks and kettles; includes kames and eskers*

GLACIAL ENVIRONMENT

- M — *MORAINAL DEPOSITS: till with minor sand, gravel, and silt; M, undifferentiated; Mr, ridged (characterized by sharp ridges and kettles); Md, drumlinoid (characterized by streamlined forms)*

PRE-FRASER GLACIATION
GLACIAL AND NON-GLACIAL

- ''OLDER'' UNCONSOLIDATED SEDIMENTS: *sand, silt, gravel, and till deposited prior to the last ice advance (generally overlain by Fraser and younger deposits); shown only where deposits contribute to the present geomorphology*

- U — *UNDIVIDED DEPOSITS: (forested areas mapped largely by airphoto interpretation); U, mainly undifferentiated morainal deposits but may contain small areas of younger deposits; Ur, mainly glacial, fluvial, and lacustrine environment deposits with ridged or kettled topographic expression*
- Db — *DRIFT BENCHES: glacial drift and older deposits; discontinuous benches of undetermined origin (may be constructional glacial or erosional ''Older'')*

Rock outcrop and areas of near-surface rock ..... R
Geological boundary (defined, approximate, assumed) .....
Glacial striae .....
Trend of drumlinoid or streamlined feature (direction of ice movement known, unknown) .....
Landslide escarpment .....
Esker (direction of stream flow known, unknown) .....
Till ridge .....
Meltwater channel (minor, major) .....
Raised shoreline features .....
Gravel pit (in Fraser and younger deposits, in Pre-Fraser deposits) .....

GEOMORPHIC LEGEND

MAP UNIT	TOPOGRAPHIC EXPRESSION: SURFACE EXPRESSION	TOPOGRAPHIC EXPRESSION: LOCAL RELIEF IN FEET	TOPOGRAPHIC SITUATION	MATERIAL
A	Flat Channels Low escarpments	10	Valley bottom Lake shore	Clay to gravel
F	Smoothly sloping fan Small channels Low escarpments	10	Valley side Changes in stream gradient Stream junction	Clay to gravel
B	Round or elongate form Flat	10	Closed depressions Seepage areas	Organic Clay Silt
S	Hummocks and ridges Closed depressions Lobate or tan form	50	High relief areas of Tertiary bedrock	Landslide debris
L	Flat to gently rolling (depending on thickness and underlying topography)	10	Valleys	Clay to fine sand
Lc	Gently to sharply rolling	25	Valleys Valley sides	Clay to sand
T	Flat with escarpments between terrace levels	10	Valley sides and bottoms	Sand and gravel
Tk	Flat to rolling Closed depressions Local escarpments	100+	Valley sides and bottoms	Sand and gravel
W	Small hummocks Channels	50	Valley slopes	Silt to gravel Till
H	Hummocks and ridges Closed depressions	100	Valley bottom and sides	Sand and gravel
M	Gently rolling Closed depressions	25	Valley sides Areas of low to moderate relief	Till
Mr	Hummocks and ridges Closed depressions	25	Valley sides Areas of low to moderate relief	Till
Md	Streamlined ridges and grooves Closed depressions	100+	Areas of low to moderate relief	Till
	Flat to rolling (depending on degree of glacier moulding)	10-100+	Valley bottom fills Valley side benches Valley wall pockets	Clay to gravel Till

ENVIRONMENT-FACIES CLASSIFICATION OF GLACIAL DRIFT (DEPOSITS)

ENVIRONMENT	FACIES: Water	Water > ice	Ice > water	Ice
Lacustrine	Lt Lv Lc		Lx	
Fluvial	Ts Td	Tk W	W H	
Glacial				M Mr Md

Water facies-Water is the depositing agent; forms are those of fluvial and lacustrine deposits
Water > ice facies- Water is the depositing agent; form of deposits is somewhat modified by presence of glacial ice
Ice > Water facies - Water is the main depositing agent; depositional forms are completely modified or entirely controlled by presence of glacial ice
Ice facies- ice is the main depositing agent; forms are those of ice deposited materials

Geological observations by R.J. Fulton, 1963-65, A.A. Berti, 1964 and G.W. Smith, 1965

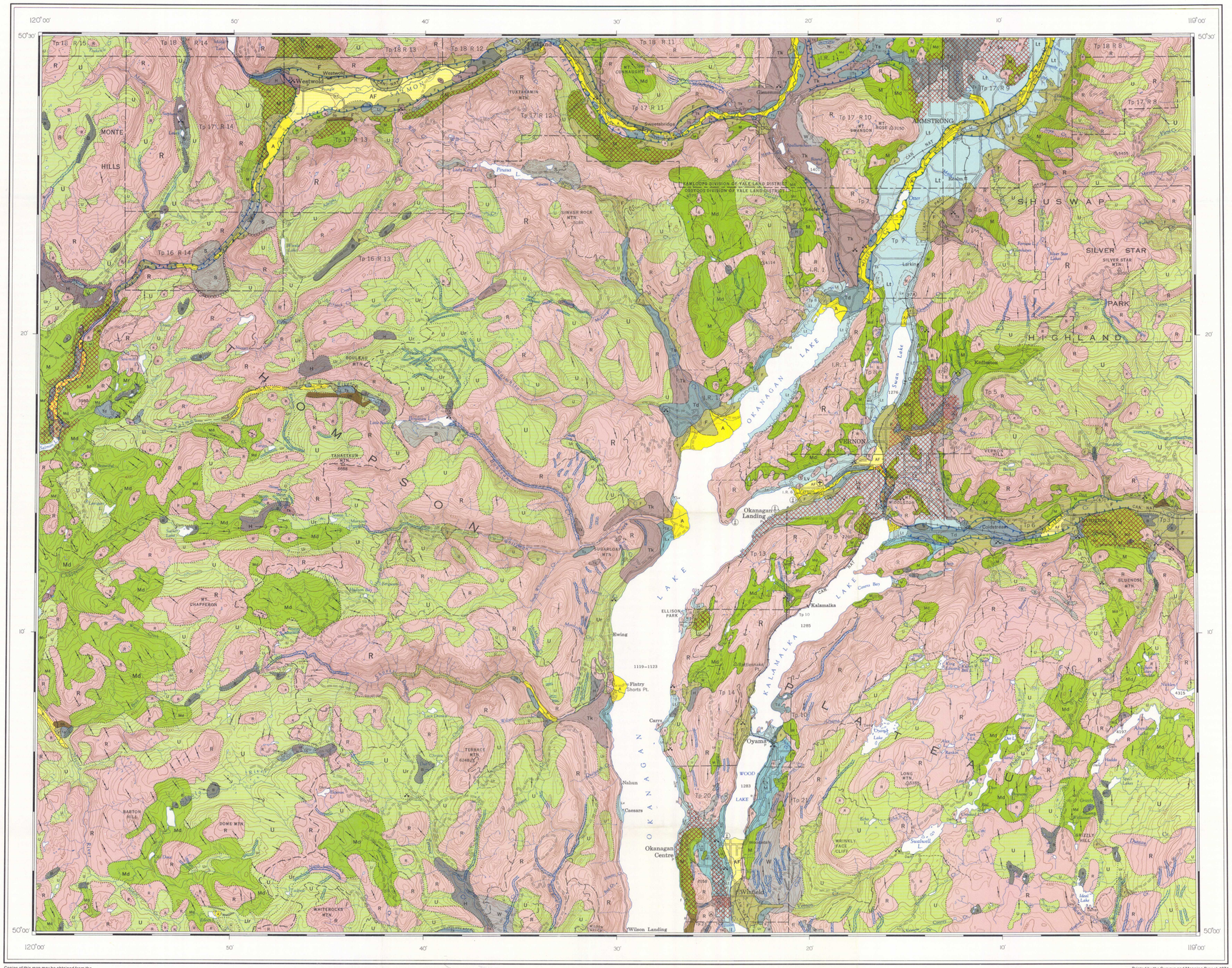
To accompany Memoir 380 by R.J. Fulton

Geological cartography by the Geological Survey of Canada

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

Base-map produced by the Geographic Division, Surveys and Mapping Branch, Department of Lands, Forests, and Water Resources Victoria, B.C. 1958-59

Approximate magnetic declination 1974, 22°43' East decreasing 2.8' annually



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

INDEX MAP

MAP 1392A

SURFICIAL GEOLOGY

VERNON

WEST OF SIXTH MERIDIAN

BRITISH COLUMBIA

Scale 1:126,720
1 inch to 2 miles

Miles 2 0 2 4 6 Miles
Kilometres 3 0 3 6 9 Kilometres

Universal Transverse Mercator Projection

Printed by the Surveys and Mapping Branch 1974

92 I/NE	82 L/NW	82 L/NE
1394A	1391A	
92 I/SE	82 L/SW	82 L/SE
1393A	1392A	
92 H/NE	82 E/NW	82 E/NE

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

MAP 1392A
VERNON
BRITISH COLUMBIA