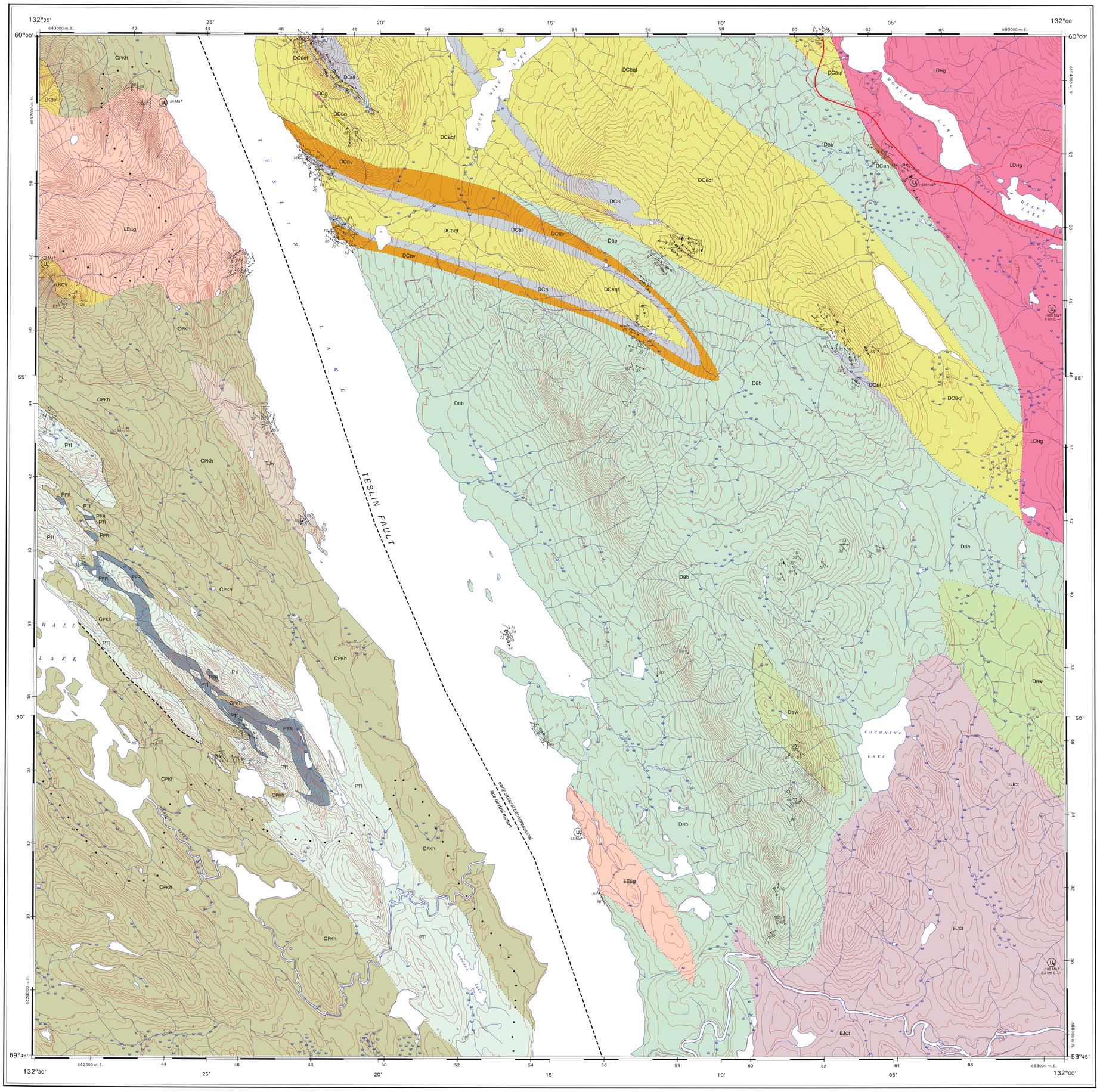
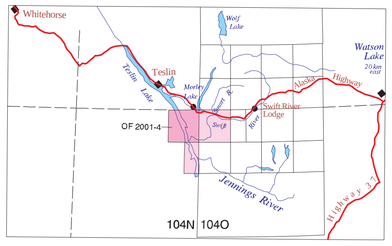
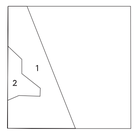


LOCATION MAP





COMPILATION SOURCES:

1. Aitken, J.D. (1959): Atlin Map-area, British Columbia (104N); *Geological Survey of Canada* Memoir 307, 89 pages.

2. Monger, J.W.H. (1975): Upper Paleozoic rocks of the Atlin Terrane, northwestern British Columbia and south-central Yukon; *Geological Survey of Canada* paper 74-47, 63 pages plus appendices and maps.

Sources of Isotopic Age Data

[a] Mihalynuk, M.G., Nelson, J. and Friedman, R.M. (1998): Regional Geology and Mineralization of the Big Salmon Complex (104N NE and 104O NW) *in* Geological Fieldwork 1997; *B.C. Ministry of Employment and Investment* , Paper 1998-1, pages 157-170.

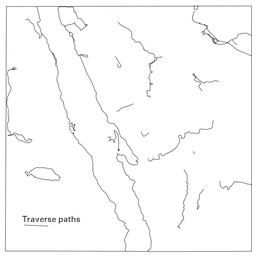
[b] Unpublished data from Richard M. Friedman, 1998, 1999, 2000, Geochronology Lab, University of British Columbia

[c] Mihalynuk, M.G., Nelson, J.L., Roots, C.F., Friedman, R.M. and de Keijzer, M. (2000): Ancient Pacific Margin Part III: Regional Geology and Mineralization of the Big Salmon Complex (NTS 104N/9E,16 & 104O/12,13,14W), *in* Geological Fieldwork 1999, *B.C. Ministry of Energy and Mines*, Paper 2000-1, pages 27-46.

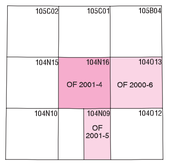
For information of the extensive surficial deposits see:

Dixon-Warren, A. and Hickin, A. (2000): Surficial Geology of the Swift River Area, NTS 104N/9, 16 and 104O/NW; *B.C. Ministry of Energy and Mines* , Open File 2000-5.

Dixon-Warren, A. and Hickin, A. (2000): Ancient Pacific Margin NATMAP Part III: Surficial mapping and till geochemistry in the Swift River Area, north western British Columbia; *in* Geological Fieldwork 1999, *B.C. Ministry of Energy and Mines* , Paper 2000-1, pages 47-70.



RELIABILITY DIAGRAM



BRITISH COLUMBIA
Ministry of Energy and Mines
Energy and Minerals Division

GEOLOGICAL SURVEY BRANCH

OPEN FILE 2001-4

GEOLOGY OF GLADYS RIVER (NTS 104N/16)

Geology by Mitchell G. Mihalynuk, JoAnne L. Nelson, Richard M. Friedman, Tom P. Gleeson, and Charles F. Roots

Digital cartography by Parm Dhesi (Geological Survey of Canada), and Mitchell G. Mihalynuk

Digital base map compiled by the Province of British Columbia, Ministry of Environment Land and Parks, modified by the Geological Survey of Canada

TRIM 78NE,79N,80N,88NE,89,90,98,99E,100

Scale 1:50 000

1 0 1 2 3 4 Kilometres

Universal Transverse Mercator Projection
North American Datum 1983

Magnetic declination Jan 2001, 25° 51.5 E, decreasing 16.1 annually.
Centre of the map
Elevations in metres above mean sea level

LEGEND

EOCENE

EESg — *Sloko granodiorite: at Dawson Peaks (circa 54 Ma), white with grey xenolith-rich zones of quartz-dioritic border phases; east of Teslin Lake (circa 55 Ma), quartz diorite to salmon pink alkali feldspar granite with smoky quartz; everywhere non-foliated*

LATE CRETACEOUS

LKCv — *Felsic volcanic rocks (circa 73 Ma); mainly dacitic lapilli tuff, probably correlative with the Carmacks Group; strongly hornfelsed near Dawson Peaks granodiorite*

LATE SYN - TO POST - ACCRETIONARY INTRUSIONS

EARLY JURASSIC

EJCt — *Foliated, pre- to syntectonic? Cocconino biotite-hornblende quartz diorite/tonalite; circa 196 Ma.*

ATLIN COMPLEX - EXOTIC OCEANIC CRUSTAL ASSEMBLAGE

CARBONIFEROUS TO JURASSIC

TJw — *Triassic to Jurassic feldspathic wacke, lesser argillite and quartz-feldspar granule conglomerate of arc derivation*

PTl — *Permian Teslin Formation limestone, Tethyan fusulinids*

PFR — *Permian French Range Formation primitive ocean arc volcanics, mainly basalt, rare felsic volcaniclastics*

CPKh — *Carboniferous to Permian Kedahda Formation hemipelagite: chert, argillite, slate, quartzite, hornfels; minor limestone*

BIG SALMON COMPLEX
- PERICRATONIC SEDIMENTS AND OVERLYING ARC COMPLEX

PRE-DEVONIAN TO CARBONIFEROUS

DCg — *Strongly deformed granitiod intrusion*

DCB — *Devonian - Mississippian Big Salmon Complex (undivided)*

DCBq — *Orthoquartzite with minor pelitic interlayers*

DCBv — *Dacite and andesite tuff and marble; between Four Mile and Coconino Lakes may include 'crinkle chert' with exhalative characteristics*

DCBl — *Marble, limestone, dolomite; may include clastic sedimentary and tuffaceous layers*

DCBh — *Crinkle chert, commonly containing piedmontite (manganiferous - epidote); traces of chalcopyrite are common.*

DBw — *Wacke in metabasite*

DBb — *Metabasalt, tuff, tuffite*

DCBqf — *Quartzite, phyllite, biotite-muscovite schist, lesser tuff and marble*

LDHg — *Mount Hazel granitoid 'orthogneiss'; moderately to strongly foliated, tonalite to granite and sparse felsite; apparently composite body with ages circa 362 and 336 Ma*

SYMBOLS

- *Bedding, tops unknown: inclined, vertical*
- *Bedding, tops known*
- *Bedding, overturned, tops known*
- *Foliation generation unknown*
- *Cleavage foliation, inclined (1st phase, 2nd phase, 3rd phase)*
- *Cleavage foliation, vertical (1st phase)*
- *Fold axis surface*
- *Dyke: inclined, vertical*
- *Lineation (1st phase, 2nd phase, 3rd phase)*
- *Clast elongation*
- *Fold unspecified (1st phase, 2nd phase, 3rd phase, 4th phase)*
- *Crenulation cleavage/intesection lineation; fold unspecified (1st phase, 2nd phase, 3rd phase)*
- *Mineral lineation: horizontal,plunging*
- *Fault Plane*
- *Jointing inclined, vertical*
- *Shear band cleavage, dextral, sinistral, top up, top down, unspecified*
- *Axial cleavage (2nd phase fold unspecified inclined, 3rd phase fold unspecified inclined, vertical)*
- *Vein*
- *Geological contact: defined, approximate, assumed*
- *Outcrop with observations*
- *Limit of Mapping*
- *Fault: defined, approximate, assumed*
- *Facies boundary*
- *Topographic contour (20m interval)*
- *Esker*
- *Isotopic age date sample site, U-Pb zircon (age in Ma)* (U) -55

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

Recommended citation:
Mihalynuk, M. G., Nelson, J. L., Friedman, R. M., Gleeson, T. P. and Roots, C. F. (2001): Geology of Gladys River (NTS 104N/16); *British Columbia Ministry of Energy and Mines*, Open File 2001-4, scale 1:50 000.