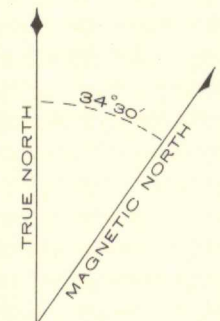


LEGEND

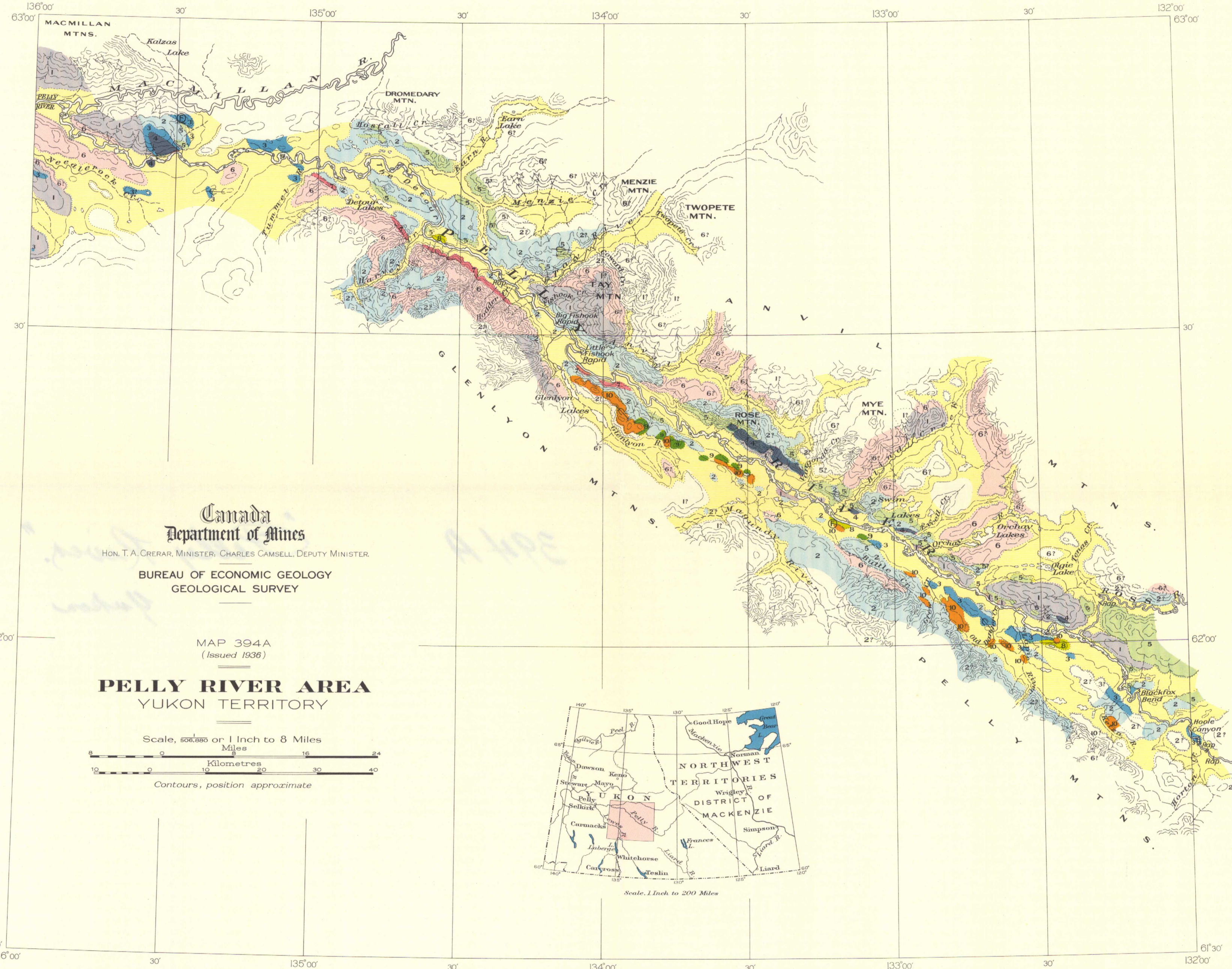
CENOZOIC	MODERN	Recent alluvium, volcanic ash, glacial drift
	TERTIARY	10 Andesite, basalt, dacite, trachyte, rhyolite
MESOZOIC	TERTIARY (?)	9 Conglomerate
	CRETACEOUS (?)	UPPER CRETACEOUS (?)
	8	Conglomerate, grit, sandstone, shale
	JURASSIC OR LATER	7 Syenite, monzonite, etc.
	6	Granodiorite
	5	Andesite, diabase, basalt; diorite, gabbro, hornblende, serpentine
	4	UPPER GROUP: conglomerate, grit
	3	MIDDLE GROUP: crystalline limestone, cherty quartzite, argillite
	2	LOWER GROUP: quartzite, chert, argillite, limestone, slate, phyllite, greenstone schist
	1	YUKON GROUP: Quartzite, mica schist, chlorite schist, graphite schist, crystalline limestone

Geological boundary (approximate, assumed)
 Glacial striae
 Fossil bearing locality

Topography by G. M. Dawson, 1887; and J. R. Johnston, 1935.
 Geology by J. R. Johnston, 1935.



Approximate magnetic declination, 34° 30' East

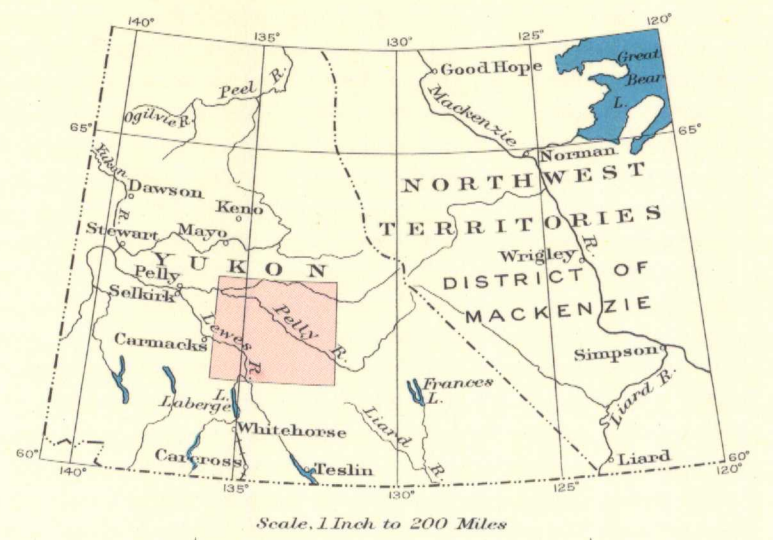


Canada
 Department of Mines
 Hon. T. A. Cramer, Minister; Charles Cammell, Deputy Minister.
 BUREAU OF ECONOMIC GEOLOGY
 GEOLOGICAL SURVEY

MAP 394A
 (Issued 1936)

PELLY RIVER AREA
 YUKON TERRITORY

Scale, 1/80000 or 1 Inch to 8 Miles
 Miles 0 10 20 30 40
 Kilometres 0 10 20 30 40
 Contours, position approximate



ACCESS

Pelly river is free of ice and open to travel by boat from early May until late October; during high or moderate water river launches can be taken as far as Ross river. Canoes equipped with outboard motors can be taken still further up stream, but portaging and tracking is necessary in the higher reaches. A portage of one-half mile must be made at Hooke canyon; the portage is on the south side of the river and it is customary to line boats along the south bank for the last half-mile below the portage.

GEOLOGY

The oldest rocks, the YUKON GROUP (1), are recrystallized sediments, chiefly quartzites, accompanied by some contemporaneous volcanics. They are prevalently schistose or gneissic, and are grey or greenish. Their structures are complex.
 The palaeozoic (?) sediments (2, 3, 4) are everywhere more or less altered, but in general exhibit their original bedding. The lower group (2) is believed to overlie the Yukon group unconformably, but part of the latter may be the metamorphosed equivalent of the former group. The middle group (3) conformably overlies greenish slate and cherty tuff beds of the lower group, but may itself include an unconformity. The conglomerate and grit beds forming the upper group (4) are interbedded with and overlie various horizons of the middle and lower groups. The whole assemblage is steeply and repeatedly folded into a series of parallel anticlines and synclines which trend north-west.
 BASIC IGNEOUS ROCKS (5), consisting of a complex of volcanics and intrusives, occur in elongate northwest-trending bodies, overlying and interfused with, or intrusive into the Palaeozoic (?) strata and members of the Yukon group. All these basic rocks are altered to greenstones. Bodies of serpentine occur associated with the other types and are, in part at least, of intrusive origin.

GRANODIORITE (6) is intrusive into all of the foregoing rocks. The typical rock is medium to coarse grained, grey, and consists of quartz, feldspar, biotite, and hornblende. The Glenlyon batholith has a steep northeastern contact with a margin of SYENITE and ALLIED ROCK TYPES (7) which grade into the typical granodiorite. Dykes of QUARTZ-FELDSPAR PORPHYRY intrude the Palaeozoic (?) sediments and the Yukon group, but occur in greatest numbers intrusive into the marginal phase of the Glenlyon batholith between Tummel and Glenlyon rivers. West of Glenlyon river these dykes appear to be overlain by volcanics of Tertiary (?) age.
 The UPPER CRETACEOUS (?) SEDIMENTS (8) occur in three small areas in the bottom of Pelly River valley. They consist of interbedded conglomerate, grit, sandstone, shale, hold plant remains, and are consolidated but not metamorphosed. The beds are folded into open structures which trend north-west, except in the area opposite Blind creek where some northeast-trending structures occur. Near to Ross river the series overlies cherty quartzite and argillite of the Palaeozoic (?) group with a small angular unconformity.

Overlying the Upper Cretaceous (?) sediments are TERTIARY (?) CONGLOMERATE (9) and TERTIARY (?) VOLCANICS (10). The conglomerate was not everywhere found to be separable from the Upper Cretaceous (?) conglomerate. It is largely a boulder deposit which is partially well consolidated, generally flat lying, and interbedded in places with andesite and basalt of the Tertiary (?) volcanics. The volcanic rocks are partly altered in places.

ECONOMIC GEOLOGY

Prospecting activity has been too limited to demonstrate the economic possibilities of the area, and no mineral deposits of value have as yet been found. The area is relatively accessible, however, and geological conditions are such as to encourage further investigation, particularly for placer and lode-gold deposits.

Alluvial gold is almost everywhere present in the stream gravels. Most of the productive creeks of Southern Yukon drain off areas of rocks of the Yukon group, or metamorphosed Palaeozoic sediments, bordered by granitic intrusives. Creeks with a similar geological setting in Pelly River area are considered to be potential placer prospects. Attention should be paid to the effects of glaciation in searching for favourable localities. The larger creek valleys, which are noticeably scoured by ice and are U-shaped, have probably lost, by ice erosion, any pay-streaks they may have held at one time. The most favourable streams are those in areas which have geological conditions as outlined above, and which run transverse to the direction in which ice moved in the larger valleys.

Small deposits of silver-lead ore have been reported in the Glenlyon mountains northeast of Little Salmon lake. These occur in schist, and although they have not been developed, they indicate mineralization in rocks bordering the Glenlyon batholith. Quartz veins, containing small amounts of sulphides in a few places, occur in rocks of the Yukon group, in the Palaeozoic (?) sediments, and in the basic igneous rocks. Sulphides also occur in shear zones in the last-named group.

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