

the is the limit of the
but in high stages John
reached. Below lower
of swift water, with
portaged. The travel
from John to the
water but it is practically
river.

in the region and which
our along the part of the
tern curves of the moun-
tain and do not appear to
rest on Finlayson river.
of calcareous are present,
stony types but largely
limestone and a schistose
dark grey or greenish
and all the rocks are cut

made up mainly of
of slates, cherts, sand-
stones and dolomites. They are
all of upper Cambrian to
at of the river, along
Kau on the travel river,
accompanied by quartzites
chert, referred to as a chert,
were found in black
in below John lake. A
stone, pure quartz con-
cretionary Pelly river in the
ending in a northwest
of east canyon and Mac-
of similar rocks crosses
stream. These rocks are
the grapholite bearing
chert, their breccias,
the greater part of some
in range, and a few beds
about 20 feet in thickness,
river. The sedimentary
beds by small bodies of
er mountain peaks are
and doubtless many other
a view their height and

tion of the Mackenzie
by minor variations, a
various angles either to
white, they are broadly
limestone. There is evidence
similar beds with, over
may be due to over-

of the in fossils were found in number. The
by the fossil forms found, the most interesting part
Bellevue, the Cambrian, indicating a Middle
Cambrian horizon. In the eastern region, the
was found only at one locality where, below the
of the river, a sill of diabase, about 100 feet
interbedded in sandstone.

The strata of the eastern portion of the Mackenzie
mountains have generally a northwesterly strike, the
dip being southerly. Faulting and folding of
the strata has given the mountains their character-
istic forms and in many respects they resemble the Rocky
Mountains of southern Canada.

The region of lower elevation bordering the Mackenzie
is underlain by small detached areas of Mesozoic and
Upper Cretaceous and Tertiary age. These rocks are
principally soft sandstones, shales and conglomerates. The
beds are either horizontal or gently undulating. The
Tertiary beds contain several seams of lignite.

ECONOMIC NOTES.

Indications of the presence of minerals of economic
interest are rare within the traversed portion of the
Mackenzie mountains. A bed of iron ore was seen on
travel a few miles below Sherar canon. The ore bed out-
crops from beneath a thick zone of conglomerate which
extends for about 20 miles north of Mount Bellevue. The
associated rocks dip south, their age is unknown but they
probably underlie Upper Cambrian rocks exposed in the
mountains near Sathu river. The following is a section in
descending order of the strata in the neighbourhood of the
ore outcrop:

Heavy, micaceous sandy slates	1,000 feet
Conglomerate	2,000 "
Hematite, micaceous slates with iron concretions	100 "
Heavy, compact dolomite	1,000 "

In 1875 the gravel bars at the mouth of Finlayson river
were worked for gold and yielded pay at the rate of \$8 to
\$9 a day. In its distribution the placer gold is found to be
confined to the area underlain by the crystalline schists,
that is along the Pelly and Finlayson rivers. Alluvial
gold is almost always present in the stream gravels within
this area. The country has been heavily glaciated and it is
probable that much of the gold that existed on bedrock
during pre-glacial times has been distributed in the glacial
drift. The fine flaky gold which enriches the river bars has
been derived from this drift by the concentrating action of
streams. Fine gold has been found in the gravels of Pelly
river from Campbell creek to the Yukon, and on most of the
small streams entering from the south. No coarse gold on
bedrock has been found in this region. The best bars on the
Pelly are between Hude canon and Hude river. On the
portion of the bars where the gold is concentrated, it is
possible with proper appliances, to wash out about \$5 a day,
but the enriched portions of the bars are shallow and of
limited extent.

125° 30'

125° 00'

124° 30'

No 1099

ATION

Lawson, 1887.
Connell, 1888, 1902.
e, 1902, 1904, 1907, 1908.
ie, 1888.
e, 1908.

To accompany Report No. 1097 English
and No. 1098 French