navigable by small
of Ross river, a
navigable as far
all boats or canoes
at least 1811 miles
n Hoole and Wolf
the limit of boat
high stages. John
rd. Below Lower
water, with four
ged. The Gravel
ichan brook to the
it is practically

region and which
ing the part of the
rner of the map.
do not appear to
Finlayson river.
ones are present,
types but largely
d a schistose
grey or greenish
the rocks are cut

e up mainly of
es, cherts, sand-
imites. They are
pper Cambrian to
e area extending
the Gravel river,
nted by quartzites
erred to as a chert.
e found in black
r John lake. A
fine quartz con-
Pelly river in the
in a northwest
naïen and Mac-
llar rocks crosses
These rocks are
raptolite bearing
. Chert breccias,
ver part of some
, and a few beds
feet in thickness,
The sedimentary
small bodies of
ntain peaks are
nless many other
their height and

f the Machenzie
ner deviations, a
angles either to
they are broadly
There is evidence
beds with, over
be due to over-

The geology of the eastern portion of the Macken
mountains, from Mount Sekani on Gravel river to
foothills of the Mackenzie, differs in many respects fr
that to the westward. Heavily bedded limestones, dolomi
sandstones and conglomerates, mostly weathering to bri
colours, are the prevailing rocks. Cambrian, Ordovici
and Devonian fossils were found at a number of localit
Of the fossil forms found, the most interesting probably
Billingsella Coloradoensis, indicating a Middle or L
Cambrian horizon. In the eastern region, lyncous ro
were found only at one locality where, below the mouth
Ewing river, a sill of diabase, about 100 feet thick
intruded in sandstone.

The strata of the eastern portion of the Macken
mountains have generally a northwesterly strike, the
cutting dip being southwesterly. Faulting and tilting
the strata has given the mountains their characteris
forms and in many respects they resemble the Rocky Mo
tains of southern Canada.

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

ECONOMIC NOTES.

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

Brown, siliceous sandy slates	1,100
Conglomerate	2,000
Hematite, coarsely laminated with red siliceous slates	100
Grey, 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 $5 to $9. a day. In its distribution the placer gold is found to be confined to the area underlain by the crystalline schists, that lie along the Pelly and Finlayson rivers. Glacial 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 [illegible] which enriches the river bars has been derived from the concentrating action of streams. Fine gold [illegible] found in the gravels of Pelly river from Campbell creek to 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 Hoole reñon and Hoole river. 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.

62°

62°

125°30' 125°00' 124°30'

No 1099

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1887.
ell, 1888, 1902.
, 1904, 1907, 1908.
888.
8.

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