GEOLOGICAL SURVEY OF CANADA
DEPARTMENT OF MINES AND TECHNICAL SURVEYS

PRELIMINARY SERIES

92-O

## LEGEND

CENOZOIC

PLEISTOCENE AND RECENT

18 Till, gravel, sand, clay, and silt

TERTIARY
UPPER MIOCENE AND (?) YOUNGER

17 Olivine basalt, andesite, and related tuffs and breccias

MIDDLE OR UPPER MIOCENE

16 Buff to grey siltstone, diatomite, clay and silty sand; coarse reddish brown conglomerate; minor ash beds

PRE-MIOCENE (MAINLY)

15 Sills and stocks of felsite, feldspar porphyry, and andesite; probably related to 14 and (?) 17

PRE-MIOCENE

14 Grey, reddish brown, greenish grey, and mauve andesite, dacite, and basalt; minor cream-coloured to white rhyolite

CRETACEOUS OR TERTIARY
UPPER CRETACEOUS OR PALEOCENE

13 13a, fine-grained to medium-grained quartz monzonite and granite; 13b, coarse-grained grey diorite, medium-grained hornblende granodiorite and diorite, feldspar porphyry and feldspathic rocks similar to 15

12 Massive, fine-grained green to grey-green andesite and basalt; minor related pyroclastic rocks, greywacke, and shale

CRETACEOUS AND/OR TERTIARY
UPPER CRETACEOUS AND/OR YOUNGER

11 Non-foliated coarse-grained biotite granite and quartz diorite

10 Greenish granodiorite and diorite with indistinct to prominent gneissosity; many granite and aplite dykes; large inclusions locally abundant

CRETACEOUS
UPPER CRETACEOUS

9 Mainly coarse-grained, friable, grey and grey-green greywacke interbedded with grey to mauve shale and conglomerate with abundant granitic pebbles

LOWER AND UPPER CRETACEOUS

8 Mainly varicoloured andesitic pyroclastic rocks intercalated in places with grey, greenish grey, and mauve massive or porphyritic flows; 8a, interbedded with shale and conglomerate similar to 7

LOWER CRETACEOUS

7 Interbedded grey to black shale and grey to green greywacke; coarse greywacke and conglomerate near top of section, minor dark grey argillaceous limestone

MESOZOIC

JURASSIC AND CRETACEOUS
UPPER JURASSIC AND LOWER CRETACEOUS
ELDORADO GROUP

6 Massive to thinly bedded argillaceous and tuffaceous beds in part dense and flinty, grey and green greywacke and shale; minor thin beds of conglomerate

JURASSIC
MIDDLE AND (?) UPPER JURASSIC
TAYLOR GROUP

5 Buff to green greywacke, light grey shale, and pebble conglomerate; massive boulder conglomerate

LOWER JURASSIC (?) OR OLDER

4 4A. Pink biotite granite, quartz monzonite, and monzonite
4B. Gneissic granodiorite, diorite, and quartz diorite; includes minor metamorphosed volcanic rocks (2)

LOWER JURASSIC

3 Black, dark grey argillite, green argillaceous tuff; minor limy argillite, greywacke

TRIASSIC
MIDDLE OR UPPER TRIASSIC

2 Limestone, basalt, and related tuffs and breccias; argillite greywacke, conglomerate; 2a, massive limestone

PALAEOZOIC

PERMIAN AND (?) OLDER
CACHE CREEK GROUP

1 Limestone, chert, argillite, greywacke; minor basalt and conglomerate; 1a, massive limestone

Geological boundary (defined, approximate or assumed)
Limit of geological mapping
Bedding (inclined, vertical, overturned)
Fault (defined, approximate, assumed)
Anticline (defined, approximate)
Syncline (defined, approximate)
Glacial striae
Fossil locality
Mineral occurrence — Au ×

### MINERAL SYMBOLS

| | | | |
|---|---|---|---|
| Copper | Cu | Molybdenum | Mo |
| Iron | Fe | Manganese | Mn |
| Gold | Au | Diatomite | diat |

Geology by H. W. Tipper 1961-62

Cartography by the Geological Survey of Canada, 1963


PUBLISHED, 1963
COPIES OF THIS MAP MAY BE OBTAINED FROM THE DIRECTOR, GEOLOGICAL SURVEY OF CANADA, OTTAWA

PRINTED BY THE SURVEYS AND MAPPING BRANCH


MAP 29-1963
GEOLOGY
# TASEKO LAKES
BRITISH COLUMBIA

Scale: One Inch to Four Miles = 1 / 253,440
Miles
4 2 0 4 8 12

Base-map by the Surveys and Mapping Branch, 1955

Mean magnetic declination, 24° 42' East, decreasing 3.3' annually. Readings vary from 24° 15' E in the SE corner to 25° 06' E in the NW corner of the map-area

## DESCRIPTIVE NOTES

The southwest quarter is the only part of the area that is difficult of access. Most of the remainder of the area can be reached by four-wheel-drive vehicles and the northern and eastern parts are served by good or fair gravel roads.

Bedrock is well exposed in the southwest quarter of the area but in the northern half, in the plateau area, glacial drift is widespread and bedrock is well exposed only along the main rivers and creeks.

No diagnostic fossils have been found in the rocks mapped as Cache Creek Group (1) but these rocks are lithologically identical with those in the type area. The massive limestone of the Springhouse Hills (1a) may be correlative with the Marble Canyon Formation.

The Triassic rocks (2) are highly deformed and differ from the Cache Creek Group rocks by having a greater percentage of volcanic rocks and a complete absence of ribbon cherts. The massive limestone beds are not so completely recrystallized as the Permian limestones.

The Lower Jurassic sedimentary rocks (3) are hard, brittle, fine-grained rocks. They closely resemble some parts of the Eldorado Group (8) and the Triassic rocks (2).

The granitic rocks of unit 4 intrude volcanic rocks believed to be of Triassic age (2). Boulders of this granite occur in a massive boulder conglomerate at or near the base of the Taylor Group (5).

The Taylor Group (5) comprises more than 15,000 feet of well-bedded sedimentary rocks. A coarse boulder conglomerate, over 1,000 feet thick, is at or near the base and thick pebble conglomerate forms the top of the group. Relation to unit 3 is not known.

The Eldorado Group (6) is a conformable succession of primarily argillaceous rocks at the base and arenaceous rocks at the top. A few thin beds of conglomerate also occur but nowhere predominate. The group is characterized by several species of Buchia that in places form thick, prominent, coquina-like beds.

Unit 7 is characteristically soft argillaceous rocks, well-bedded and over 5,000 feet thick. A well preserved flora has been obtained from the uppermost beds and in places marine shells are closely associated. The leaves suggest an Albian age but the shells suggest that the beds are somewhat older.

Unit 8 overlies unit 7 conformably and in places the two are interbedded at the contact. On the south side of Mount Tatlow a thickness of more than 20,000 feet is estimated but repetition may have occurred. Thin sedimentary beds high in the section contain fossil leaves of probable early Upper Cretaceous age.

The Upper Cretaceous sedimentary rocks (9) are warped into broad, open folds and are cut by a few normal faults. This unit has not been recognized in the mountainous parts of the area.

Units 11 and 10 are part of the Coast plutonic rocks. Unit 11 is intrusive into unit 10 and both are younger than unit 8.

The Cretaceous or Paleocene volcanic rocks (12) rest with pronounced angular unconformity on units 7 and 8 but are themselves only slightly deformed. Fossil leaves of Upper Cretaceous or Paleocene age occur in sediments at the base of the unit.

The Upper Cretaceous or Paleocene rocks (13) are probably of several ages but most of them are thought to be Paleocene. Relations between the several rock types are not known. The more quartzose rocks (13a) form two distinct stocks with sharp, well-defined, intrusive contacts with unit 12.

Unit 14 is a group of volcanic rocks that have been mapped in other areas to the north as Paleocene to Oligocene and have been subdivided. The rocks have not been intensely deformed but have been intruded by some felsite plugs (15).

These small intrusive bodies (15) are widespread in the area and cut all units except 16 and 17. In places the dykes appear to have been emplaced along major faults. Sills are more abundant near the Coast plutonic rocks (10, 11) but do not appear to be lithologically related.

Poorly consolidated sedimentary rocks (16) occur mainly along major stream valleys at or near the base of unit 17. In places they are interlayered with the lower flows of that unit. One or two sections along Chilcotin River may be younger than the plateau lavas (17).

The plateau lavas (17) occupy much of the broad flat plateau area between prominent hills. The unit rises gradually to the southwest from elevations of 3,000 feet to elevations over 8,500 feet. Isolated patches of lavas cap many of the mountains but no lavas are found in the mountain valleys. This evidence has led to the conclusion that the Coast mountains in this area have been elevated and dissected in post-Miocene to early Pleistocene time, after the extrusion of the plateau lavas.

The last major ice movement in the area was in a northeasterly direction and heavy deposits of glacial sediments (18) are distributed over the area.

The structure is complex. Faults, both normal and thrust, are prominent features and have affected all units to some degree. Several steep, southwest dipping thrust faults are known and have been traced for several miles and are believed to extend across and beyond the area. Several of the faults are apparently related to the Fraser River fault system.

Mineral occurrences have been known for many years in the southern part of the area and several attempts have been made to develop mines, such as Pellaire, Taylor-Windfall, and others. Reports on these properties may be found in the Annual Reports of the Minister of Mines of British Columbia for the last 40 years.

Malachite has been noted in many places but no large concentration of copper minerals has been found. Rocks as young as unit 14 exhibit some copper stain, particularly near felsite plugs (15) and dioritic intrusions (13b). Molybdenite and chalcopyrite occur along Tchaikazan River. Gold occurrences are numerous but small. The mineralization occurred mainly in early Tertiary time.

## LEGEND

Road, all weather
Other roads
Trail
District boundary
Indian Reserve boundary
Post office — P
Airport or airfield
Intermittent stream
Marsh
Glacier
Contours (interval 500 feet) — 5500
Height in feet above mean sea-level — 6120

MAP 29-1963
TASEKO LAKES
BRITISH COLUMBIA
92-O