

**FOSSIL IDENTIFICATIONS**  
Identifications by H.W. Tipper  
(unpublished GSC Fossil Report 21-1990-001)

LOCALITY	FOSSILS	AGE
C-15724	hildoceratid ammonite <i>Arietiaceras</i> sp.?	Late Pliensbachian
C-15725	<i>Trochidoceras actaeon</i> <i>Panoholiroceras</i> sp.	Early Pliensbachian
C-15727	<i>Trochidoceras cf. arcturum</i>	Early Pliensbachian
C-15728	<i>Ensolium bellicum</i>	Probably latest Sinemurian
C-15730	<i>Gemellioceras</i> sp. Possible <i>Panoholiroceras</i> sp.	Early Pliensbachian
C-15732	<i>Hondia</i> ? sp.	Late Triassic?
C-15733	<i>Asteroceras</i> sp. <i>Paleoholiroceras</i> ? sp.	Late Sinemurian
C-15734	<i>Ensolium bellicum</i> <i>Ensolium</i> sp.	Late Sinemurian
C-15735	<i>Dubriceras</i> sp.	Early Pliensbachian
C-15736	<i>Trochidoceras actaeon</i> <i>Meloboceras</i> sp.	Early Pliensbachian
C-15742	<i>Trochidoceras</i> ? sp.	Probably Early Pliensbachian
C-15743	<i>Trochidoceras actaeon</i> <i>Ensolium</i> sp.	Early Pliensbachian
C-15745	<i>Hemiooceras</i> sp.	Late Toarcin or Early Aalenian?
C-15746	<i>Averoniceras</i> sp.	Probably Late Pliensbachian
C-15749	<i>Gemellioceras</i> ? or <i>Trochidoceras arcturum</i> ? <i>Trochidoceras</i> sp.	Early Pliensbachian
C-15750	<i>Dubriceras</i> sp.	Early Pliensbachian
C-15753	<i>Trochidoceras</i> ? sp.	Early Pliensbachian
C-15756	<i>Dubriceras</i> sp.	Early Pliensbachian
C-15760	<i>Polymeria</i> sp. cf. <i>confusa</i> <i>Panoholiroceras</i> sp.	Early Pliensbachian
C-15770	<i>Leptoloceras</i> sp.	Late Pliensbachian
C-15771	<i>Averoniceras</i> sp. cf. <i>colubiforme</i>	Early to Late Pliensbachian
C-15772	<i>Panoholiroceras</i> sp. <i>Arietiaceras</i> sp. <i>Averoniceras</i> cf. <i>colubiforme</i>	Late Pliensbachian
C-15773	<i>Trochidoceras</i> sp.	Early Pliensbachian
C-15774	<i>Dubriceras</i> sp. <i>Leptoloceras</i> sp. <i>Doxyleme</i> sp.	Early Pliensbachian
C-15775	<i>Arietiaceras</i> sp.?	Late Pliensbachian
C-15779	<i>Averoniceras</i> sp. <i>Doxyleme</i> sp.	Early to Late Pliensbachian
C-15780	hildoceratid ammonite, possibly <i>Arietiaceras</i>	Probably Late Pliensbachian
C-15781	<i>Dubriceras</i> sp. <i>Leptoloceras</i> sp. <i>Dubriceras</i> sp. aff. <i>silvini</i>	Early Pliensbachian
C-15783	<i>Leptoloceras</i> sp. aff. <i>accurata</i>	Late Pliensbachian
C-15784	hildoceratid ammonite	Probably Late Pliensbachian

**DESCRIPTIVE NOTES**

**STRATIGRAPHY**  
The oldest rocks in the map area are Upper Triassic Karstun Formation pillow lavas, pillow breccia, and volcanic flows described in detail by Sutherland Brown (1960). Conformably overlying the Karstun Formation are the Upper Triassic to Lower Jurassic Tongue and Maude Group comprising limestone, argillite, tuff, shale, siltstone, and sandstone (described by Cameron and Tipper, 1985; Hesthammer, 1991a). These rocks are exposed mainly at Bennett Sound and in a structural high in the central Graham Island area.

Volcanic flows, pyroclastic rocks, and volcaniclastic sediments of the Middle Jurassic Yakoun Group unconformably overlie the Tongue and Maude Group. Sedimentary facies of this unit are exposed mostly in central Graham Island and the volcanic rocks flank the sedimentary deposits in the eastern and western parts of the map area. Yakoun Group lithologies include shale, siltstone, sandstone, conglomerate, volcanic flow rocks, lahars, and pyroclastic deposits, and are generally disconformable. Cameron and Tipper (1985) provide a general description of the Yakoun Group, and details of the lithologies present in the map area are presented by Hesthammer (1991a).

Cretaceous rocks comprise sandstone, shale, turbidites, and conglomerate, and unconformably overlie the Yakoun Group. The most recent description of Cretaceous rocks in the map area is that of Indrelid (1991), and a regional analysis of Cretaceous rocks is provided by Haggart (1991).

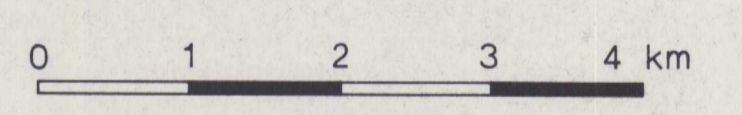
Tertiary volcanic rocks cover most of the higher peaks in the map area. These rocks are generally flat-lying and consist of flows and pyroclastic deposits, with minor epiclastic interbeds. Hickson (1991) provides a detailed analysis of the volcanic rocks of the Masset Formation in the northern part of Graham Island, and Haggart et al. (1990) and Indrelid (1991) describe tertiary volcanic rocks exposed in the southern parts.

Sedimentary rocks of the Tertiary Skown Formation include shale, sandstone, and conglomerate (Haggart, 1991), exposed in the northeastern part of the map area and along the east coast of central Graham Island. The areal extent of this unit is greater than earlier suggested by Sutherland Brown (1960).

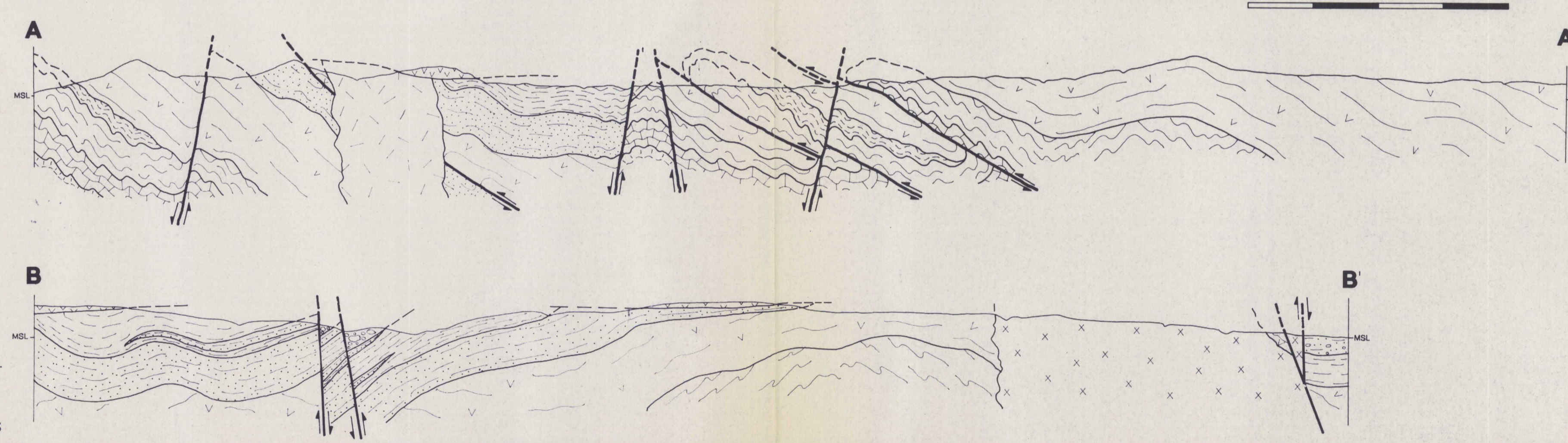
Plutonic rocks are exposed at several localities in the map area and are of Jurassic and Tertiary age. The main outcrops are north of Yakoun Lake, north of Shields Bay, and in the Sheila Lake area in the northern part of the map area. Anderson and Keicherbach (1991) provide details of the petrologic character and ages of these plutonic bodies.

**STRUCTURAL GEOLOGY**  
Structures in the map area suggest several compressional and extensional events. An angular unconformity at the base of the Yakoun Group restricts the earliest shortening to Middle Jurassic (depression) time. Structures associated with this shortening include northeast-dipping thrust faults and southeast-verging folds. Major northeast-trending normal faults cut through the Middle Jurassic thrust faults and indicate Late Jurassic/Cretaceous block faulting. A zone of intense folding and faulting in Cretaceous strata in the Yakoun Lake region dates a second compressional event as late Cretaceous or early Tertiary. East-northeast-trending strike-slip and dip-slip faults seen at the outcrop scale are partly related to the Middle Jurassic compressional event, but the majority appear to be related to a Tertiary deformational event. Details of the structural geology of the southern Graham Island are provided in Hesthammer (1991b) and Indrelid (1991).

**STATION LOCATION MAP**  
**INTERPRETIVE CROSS-SECTIONS**



SYMBOLS		LEGEND	
● C-15970	GSC fossil locality	SKONUN FORMATION	
○ 8123	J. Hesthammer and J. Indrelid, 1988	unnamed volcanic rocks and MASSET FORMATION	
○ 8124	J. Indrelid and J. Hesthammer, 1989	HONNA FORMATION	
● 183	J. Hesthammer, 1990	"CRETACEOUS SHALE" turbidite lithofacies	
○ 183	J. Indrelid, 1990	"CRETACEOUS SHALE" shale lithofacies	
○ 183	P.D. Lewis, 1990	"CRETACEOUS SANDSTONE"	
○ 183	J.W. Haggart, 1989	YAKOUN GROUP	
○ 183	J.W. Haggart, 1990	MAUDE GROUP	
		SANDLANDS FORMATION	
		PERIL FORMATION	
		SADLER LIMESTONE	
		KANO PLUTONIC SUITE	
		BURNABY ISLAND and SAN CHRISTOVAL PLUTONIC SUITES	



Geology by: J. Hesthammer, J. Indrelid, P.D. Lewis, and J.W. Haggart  
1991

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