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 A contribution to the Nechako NATMAP project

**BEDROCK GEOLOGY OF THE FULTON LAKE MAP AREA**  
 NORTH-CENTRAL B.C.  
 NTS 93L/16

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Scale 1:50 000  
 0 1 2 3 4 5  
 Kilometres

**Layered Rocks**

- Eocene**
- ENDAKO GROUP**
    - EBC** Buck Creek Formation: massive, greenish-grey, vesicular basalt; relatively fresh; minor volcanic conglomerate
  - OOTSJA LAKE GROUP**
    - ENv** Newman volcanics: undivided hornblende-biotite-feldspar phytic andesite, volcanic breccia, lahar and volcanic conglomerates; may include basaltic andesite members
    - ENva** Lahar member: light grey, crudely stratified, poorly-sorted lahar and volcanic conglomerate; monolithic; angular to subrounded clasts of hornblende-biotite-feldspar phytic andesite up to 2 metres in diameter in a feldspar and hornblende rich sandy matrix
    - ENvb** Breccia member: grey, thick-bedded volcanic breccia member; minor flows and lahar; monolithic; angular clasts of hornblende-biotite-feldspar phytic andesite in a finer-grained matrix of the same composition; locally contains charred wood fragments
    - ENva** Andesite member: grey to greenish grey and maroon, hornblende-biotite-feldspar phytic andesite; locally columnar to sheet-jointed; may occur as sills or volcanic necks; Ar-Ar ages 50.5 to 52.8 Ma
    - PECg** heterolithic boulder to pebble conglomerate, feldspathic sandstone; may be basal conglomerate to the Newman volcanics; sills on Triassic Topley intrusions and Jurassic to Triassic volcanic rocks; may be as old as Paleocene
- UPPER CRETACEOUS**
- KASALKA GROUP**
    - UKK** hornblende-biotite-feldspar phytic andesite flows, volcanic breccia and lapilli tuff; locally contains angular coarse-grained clasts of biotite-hornblende-feldspar porphyry of the Bulky intrusions
- LOWER CRETACEOUS**
- SKEENA GROUP**
    - IKS** medium to thin-bedded, dark grey, quartzose and micaceous sandstone, siltstone, shale, chert pebble conglomerate
- LOWER TO MIDDLE JURASSIC**
- HAZELTON GROUP**
    - mJs** greenish grey to maroon, well-bedded, shallow marine fossiliferous, feldspathic sandstone, siltstone, wacke and volcanic pebble conglomerate; locally glauconitic and tuffaceous; fossils are Aspidian to Bajocian ammonites and pelecypods
    - ImJv** dark grey, tuffaceous siltstone and volcanic wacke, feldspathic granule to pebble conglomerate, chert; tan to orange weathering; greenish matrix; resistant felsic clasts
    - ImJv** interbedded green amygdaloidal and augite phytic basalt flows and volcanic breccia; flow top breccia; oolitic tuff; greenish grey lapilli tuff and breccia with angular felsic clasts; tuffaceous sandstone; ash flow tuff; flow-banded rhyolite
    - IJN** dark grey, thin to thick, well-bedded, shallow to deep marine feldspathic siltstone, sandstone, argillite; minor pebble conglomerate and limestone near base; overlies Topley Formation volcanics; fossils are Late Simenium to Late Pteridophan
    - IJT** Topley Formation: undivided maroon air fall tuffs, feldspar phytic andesite flows and volcanic breccia, amygdaloidal basalt flows, related epiclastic and volcanoclastic rocks; Simenium or older
    - IJTf** rhyolite member: maroon to grey flow-banded rhyolite and ash flow tuff; thin to absent in most areas; interbedded with lapilli tuff and volcanic breccia; may sit stratigraphically above amygdaloidal basalt member
    - IJTe** Basalt member: maroon to greenish-grey amygdaloidal basalt, minor flow top breccia; locally augite phytic; calcite and chlorite filled amygdalites, in part submarine
    - IJTa** Breccia member: maroon to grey volcanic breccia and lapilli tuff; angular blocks and lapilli of feldspar phytic andesite and crystal tuff
    - IJTe** Andesite member: massive maroon to grey feldspar phytic andesite flow, minor volcanic breccia; resistant
    - IJTa** Maroon tuff member: medium to thin-bedded, feldspathic maroon to grey air fall lapilli, crystal and ash tuff member; minor interbedded volcanic conglomerate and sandstone
    - IJTa** Tuffaceous sedimentary member: thin-bedded maroon to grey tuffaceous mudstone, siltstone, volcanic wacke and granule to pebble conglomerate; minor limestone, chert and limestone clasts in conglomerate
- UPPER TRIASSIC TO LOWER JURASSIC**
- uKJcg** maroon to red poorly-sorted boulder conglomerate with clasts of megacrystic porphyry, augite phytic basalt, limestone, banded siltstone and chert; interbedded with pebble conglomerate, sandstone and siltstone. May be basal member of the Hazelton Group
  - uKJmp** megacrystic feldspar porphyry; tabular to equant feldspar phenocrysts to 3 centimetres; occurs as flows or sills within maroon to red boulder conglomerate (uKJcg)
- UPPER TRIASSIC**
- WESTERN TAKLA GROUP**
    - uKsv** undivided limestone and interbedded marine sediments with Norian macrofossils; may include greenish-grey augite phytic basaltic flows, volcanic breccias and tuffs; augite phytic volcanic sandstone and related apitistics
    - uKp** augite phytic andesite to basalt flows; strongly magnetic; Ar-Ar isotopic age 210 Ma (Norian)
    - mks** calcareous siltstone, chert, minor pebble conglomerate; overlies massive limestone of probable Pennsylvanian-Permian age
- LATE PENNSYLVANIAN TO EARLY PERMIAN**
- ASITKA GROUP (?)**
    - Pc** grey-weathering, medium to thick-bedded limestone; resistant, cliff-forming; contains poorly preserved corals

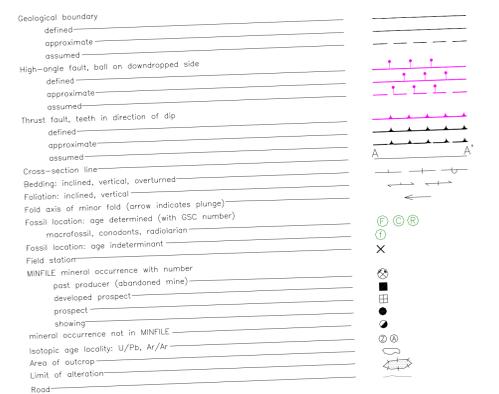
**INTRUSIVE ROCKS**

- Eocene**
- BABINE INTRUSIONS**
    - EBp** dark grey, fine-grained, crowded biotite/-hornblende-feldspar porphyry dykes and plugs; K-Ar isotopic ages range from 50.2 to 55.8 Ma; Ar-Ar age 51.4 Ma; important porphyry copper deposits are associated with these intrusions
    - EBq** grey, medium-grained, crowded quartz/-biotite-feldspar porphyry dykes and plugs; slightly younger than biotite-feldspar porphyry; hosts porphyry copper mineralization at the Bell mine
    - EBr** quartz phytic, flow-banded, grey to cream, rhodochite to rhyolite dome complexes; includes greenish grey feldspar porphyry on the Newman Peninsula; elsewhere includes quartz phytic lapilli tuff; may host porphyry copper mineralization
- UPPER CRETACEOUS**
- BULKLEY INTRUSIONS**
    - LKbp** coarse-grained biotite-hornblende-feldspar/-quartz porphyry granodiorite dykes and stocks; biotite blocks and feldspar phenocrysts up to 1 centimetre; K-Ar isotopic age of 78.3 Ma from the Lennac Lake stock
- JURASSIC TO CRETACEOUS**
- JKg** grey, medium-grained granodiorite, quartz diorite; locally porphyritic
  - JKa** dark grey diorite, gabbro and basalt dykes and stocks; age uncertain
- LATE TRIASSIC TO EARLY JURASSIC**
- LTKJbx** intrusive and/or extrusive breccia containing angular clasts of pink Topley intrusions and augite phytic volcanics of the Western Takla (?) Group in a dark grey to maroon, feldspar phytic basaltic matrix

**TOPLEY INTRUSIONS**

- LKJt** undivided pink to red weathering, potassium feldspar rich quartz monzonite, monzonite, megacrystic granite and rhyolitic to aplitic dykes
- LKJta** pink, fine-grained sparsely feldspar phytic aplitic and rhyolitic dykes; dykes cut Triassic and older rocks; late stage of Topley intrusions; may be as young as Jurassic
- LKJte** pink, fine-grained, locally quartz-feldspar phytic monzonite to syenite, late phase of multi-phase stocks
- LKJtb** pink, coarse-grained, granite with orthoclase megacrysts; biotite, hornblende and quartz bearing; U-Pb zircon age circa 217 Ma
- LKJto** orange to red weathering, feldspar phytic, fine to medium grained monzonite to quartz monzonite; earliest border? phase of the Topley stock

**SYMBOLS**



**SOURCES OF MAP DATA**

Geology based on mapping completed by D.Machtyre, I.Webster and K.Bellefontaine, June-September, 1995. Warning: Data is preliminary and current to May 1996. Other sources of geological data used are listed below.

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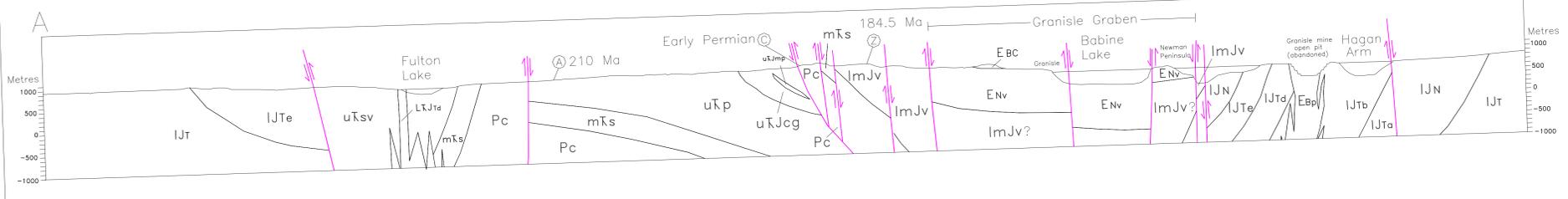
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**Geological Cross-Section A-A'**



**MINIFILE Mineral Occurrences**

No.	Name	Commodities	Type
144	Tachi	Cu, Mo	Porphyry
145	Newman	Pb, Zn, Ag, Au, Cu	Vein
146	Granisle	Cu, Ag, Au, Mo	Porphyry
163	O	Cu	unknown
164	Mine	Cu	unknown
167	Alp	Cu	unknown
190	Thezar 75	Cu, Mo	Porphyry
191	Thezar 81	Cu	Porphyry
192	Carina	Cu	Porphyry
199	Totem	Cu	Porphyry
207	Hog	Cu, Pb, Zn	Stratiform
208	Trek	Cu	Vein
209	Mag	Cu, Pb, Zn	Vein
212	Donno	Fe, magnetite	Porphyry
215	Badge	Cu	Porphyry
219	Ketza	Cu	Porphyry
220	Kare	Cu	Porphyry
224	Sat	Cu	Porphyry
225	Pro	Cu, Mo	Porphyry
306	Cart	limestone	Limestone
308	Calcite	limestone	Limestone
315	Gold Dust	Cu, Mo, Au, Ag	Vein
325	Bobs	Cu, Au	Porphyry

