

# QUIET LAKE (105 F) AND FINLAYSON LAKE (105 G) MAP-AREAS

## LEGEND SOUTHWEST OF TINTINA FAULT

### INTRUSIVE ROCKS POST- (SSYN-?) TECTONIC

MID-CRETACEOUS

- Kfns** Quartz feldspar porphyry dykes with light grey and green coloured granitic to very fine-grained quartz-feldspathic groundmass studded with small, subhedral, clear quartz and white feldspar phenocrysts
- Km** Moderately resistant, light grey weathering, biotite quartz monzonite; medium to coarse grained equigranular, generally lacks foliation; boundaries with En are arbitrary; lacks small xenoliths, but locally includes large screens of metamorphic rocks
- Kqm** Moderately resistant, light grey weathering, homogeneous porphyritic (pinkish K-feldspar) medium-grained biotite quartz monzonite; locally exhibits a strong laminated fabric; boundaries with En are arbitrary; lacks small xenoliths, but locally includes large screens of metamorphic rocks

### ALLOCHTHONOUS ROCKS OMINECA CRYSTALLINE BELT

#### CARBONIFEROUS AND PERMIAN (MAY INCLUDE OLDER AND YOUNGER ROCKS)

##### ANWIL-CAMPBELL ALLOCHTHON

- CPA** Resistant, dark grey weathering, dark green fine-grained amphibolite, less metamorphosed "greenstone" and altered basalts; includes minor altered gabbro, undifferentiated; largely massive and structureless, but a penetrative flaser fabric is developed above the basal thrust and in places within the mass (e.g. north side of Mt. St Cyr)
- CPAa** Resistant, dark brown weathering, ductile, peridotite and pyroxenite with serpentinized equivalents; includes CPA, undifferentiated
- CPAb** Yellow-green and grey weathering, recessive serpentinite

#### (AGE UNKNOWN)

##### KLONDIKE SCHIST

- MC** Light grey weathering, resistant marble; age and relations unknown
- BPAL** Light buff weathering, pale green muscovite quartz blastomylonite, muscovite quartz schist and muscovite quartzite; includes minor quartz and feldspar granule grit undifferentiated and chlorite schist; may include CPA undifferentiated

### PARAUTOCHTHONOUS & AUTOCHTHONOUS ROCKS PELLY-CASSIAR PLATFORM

#### UPPER TRIASSIC AND (?) JURASSIC

- U3v** Dark green, massive, volcanoclastic sandstone; minor tuff
- U3b** Dark grey and buff weathering, recessive, thin-bedded biotitic limestone with interbedded sandy or silty limestone; calcareous siltstone and shale; commonly finely cross-laminated; includes C1 undifferentiated

#### CARBONIFEROUS

- C1** Recessive, dark grey weathering, thin-bedded interbedded buff yellowish siltstone and brown argillite with minor interbedded argillaceous limestone; strongly bioturbated
- M** Rusty orange weathering, resistant, apple green and dark grey thin bedded chert and "cherty tuff"; may include minor Mv undifferentiated

#### MISSISSIPPIAN

- Mv** Resistant, dark grey and locally rusty weathering, massive to weakly foliated, green and narrow intermediate cherty to sandy buff and volcanic breccia; minor flow rocks; includes Mva and Mv undifferentiated
- Mva** Heterogeneous, rusty, black, white and orange weathering lapilli and sand tuff, volcanic breccia and flow rocks ranging from trachyte to andesite in composition; black argillaceous slate and siltstone; pale grey and pale green "cherty tuff" locally abundant; minor finely crystalline buff limestone; locally includes abundant trachyte dykes; locally highly pyritic, weakly sericitized and commonly strongly foliated so that primary textures are masked; includes narrow and green intermediate tuffs and flows (Mv); may include Mv undifferentiated

#### UPPER DEVONIAN AND MISSISSIPPIAN

- U6Mc** Dark grey weathering, medium-bedded chert granule grit and chert pebble conglomerate with interbedded black slate
- U6M** Black recessive weathering, with rusty streaks, thin bedded black siliceous slate with minor interbedded chert grain breccia and chert granule grits; includes lenses of intermediate to acid volcanoclastic rocks undifferentiated; may include Mv undifferentiated; includes C1 undifferentiated

#### DEVONIAN (UPPER)

- Dvc** Orange weathering, pale green, resistant amygdaloidal (calcified) basalt, basaltic tuff and breccia; interbedded crinoidal calcarenite; includes Cc undifferentiated; includes calcareous brown weathering slate
- Dc** Light grey weathering, platy, medium to dark grey, thin bedded, ferric, crinoidal limestone and buff weathering thick bedded, medium grey coarsely crystalline ferric limestone; includes minor calcareous slate

#### DEVONIAN AND LOWER DEVONIAN?

- D6v** Orange buff weathering, resistant, medium grey, thin to medium bedded, finely laminated and cross-laminated calcareous quartz siltstone and calcareous very fine-grained orthoquartzite, with brown silty phyllite partings; minor interbeds of massive light grey orthoquartzite
- D6** Resistant, orange weathering, massive, medium grey, thin bedded, medium to dark grey, calcareous shale, siltstone and argillaceous limestone; includes silty and phyllitic slate; its metamorphic equivalents; includes S06 undifferentiated; laterally gradational to U6M and U6S1c

#### DEVONIAN AND LOWER DEVONIAN?

- D6v1** Moderately resistant, black graphitic siliceous and pyritic slates; weathers black with rusty streaks; includes U6M undifferentiated; gradational to U6S1c
- D6v2** Black, recessive weathering, calcareous graphitic "sooty" slate and silty slate; includes thin beds of dark grey, graphitic, very fine grained quartzite and black "sooty" crinoidal limestone; gradational to U6S1c

#### DEVONIAN AND LOWER DEVONIAN?

- D6v3** Resistant, brown weathering, thinly interbedded shale, calcareous siltstone and argillaceous limestone; metamorphosed to biotite phyllite, tremolite calcite quartzite and sparse marble
- D6v4** Bright orange weathering, massive, medium grey, ankeritic shale, slate and phyllitic slate

#### DEVONIAN AND LOWER DEVONIAN?

- D6v5** Fairly resistant medium grey weathering, muscovite biotite quartz-feldspathic gneiss with interfoliated chlorite biotite quartzite; quartz chlorite schist, amphibole chlorite schist and minor white marble; the more metamorphosed equivalent of D6v2 and D6v3; relationships between D6v2, D6v3 and D6v5 are gradational; in the southeast part of the area D6v4 and D6v5 are gradational with each other

#### DEVONIAN AND LOWER DEVONIAN?

- D6v6** Buff weathering, biotite garnet muscovite schist with interfoliated lenses of coarsely crystalline, light grey marble; includes minor augen gneiss; arbitrary
- D6v7** Blocky, medium grey weathering, biotite muscovite quartz feldspar augen gneiss of quartz schist; laterally gradational to D6v6; boundaries arbitrary
- D6v8** Injection migmatite consisting of sills and dykes of fine grained biotite quartz monzonite, apfite and pegmatite, in biotite muscovite augen gneiss and schist; proportion of injected plutonic rocks to host schist varies widely; contacts with Km are arbitrary, based on the proportion of plutonic rock to schist
- D6v9** Augen gneiss Dn injection migmatite Dn and biotite quartz monzonite Km undifferentiated

#### DEVONIAN AND LOWER DEVONIAN?

- D6v10** Dark grey weathering, medium grey silty slate with some interbedded greywacke made up of white quartz grit in a greenish matrix
- D6v11** Rusty weathering, green, white and purple banded hornfels; thermally metamorphosed equivalents of the late Windermere green silty slate (E6S)

### AUTOCHTHONOUS ROCKS SELWYN BASIN

#### UPPER TRIASSIC AND (?) JURASSIC

- U3v** Dark green, massive, volcanoclastic sandstone; minor tuff
- U3b** Dark grey and buff weathering, recessive, thin-bedded biotitic limestone with interbedded sandy or silty limestone; calcareous siltstone and shale; commonly finely cross-laminated; includes C1 undifferentiated

#### CARBONIFEROUS

- C1** Recessive, dark grey weathering, thin-bedded interbedded buff yellowish siltstone and brown argillite with minor interbedded argillaceous limestone; strongly bioturbated
- M** Rusty orange weathering, resistant, apple green and dark grey thin bedded chert and "cherty tuff"; may include minor Mv undifferentiated

#### MISSISSIPPIAN

- Mv** Resistant, dark grey and locally rusty weathering, massive to weakly foliated, green and narrow intermediate cherty to sandy buff and volcanic breccia; minor flow rocks; includes Mva and Mv undifferentiated
- Mva** Heterogeneous, rusty, black, white and orange weathering lapilli and sand tuff, volcanic breccia and flow rocks ranging from trachyte to andesite in composition; black argillaceous slate and siltstone; pale grey and pale green "cherty tuff" locally abundant; minor finely crystalline buff limestone; locally includes abundant trachyte dykes; locally highly pyritic, weakly sericitized and commonly strongly foliated so that primary textures are masked; includes narrow and green intermediate tuffs and flows (Mv); may include Mv undifferentiated

#### UPPER DEVONIAN AND MISSISSIPPIAN

- U6Mc** Dark grey weathering, medium-bedded chert granule grit and chert pebble conglomerate with interbedded black slate
- U6M** Black recessive weathering, with rusty streaks, thin bedded black siliceous slate with minor interbedded chert grain breccia and chert granule grits; includes lenses of intermediate to acid volcanoclastic rocks undifferentiated; may include Mv undifferentiated; includes C1 undifferentiated

#### DEVONIAN (UPPER)

- Dvc** Orange weathering, pale green, resistant amygdaloidal (calcified) basalt, basaltic tuff and breccia; interbedded crinoidal calcarenite; includes Cc undifferentiated; includes calcareous brown weathering slate
- Dc** Light grey weathering, platy, medium to dark grey, thin bedded, ferric, crinoidal limestone and buff weathering thick bedded, medium grey coarsely crystalline ferric limestone; includes minor calcareous slate

#### DEVONIAN AND LOWER DEVONIAN?

- D6v** Orange buff weathering, resistant, medium grey, thin to medium bedded, finely laminated and cross-laminated calcareous quartz siltstone and calcareous very fine-grained orthoquartzite, with brown silty phyllite partings; minor interbeds of massive light grey orthoquartzite
- D6** Resistant, orange weathering, massive, medium grey, thin bedded, medium to dark grey, calcareous shale, siltstone and argillaceous limestone; includes silty and phyllitic slate; its metamorphic equivalents; includes S06 undifferentiated; laterally gradational to U6M and U6S1c

#### DEVONIAN AND LOWER DEVONIAN?

- D6v1** Moderately resistant, black graphitic siliceous and pyritic slates; weathers black with rusty streaks; includes U6M undifferentiated; gradational to U6S1c
- D6v2** Black, recessive weathering, calcareous graphitic "sooty" slate and silty slate; includes thin beds of dark grey, graphitic, very fine grained quartzite and black "sooty" crinoidal limestone; gradational to U6S1c

#### DEVONIAN AND LOWER DEVONIAN?

- D6v3** Resistant, brown weathering, thinly interbedded shale, calcareous siltstone and argillaceous limestone; metamorphosed to biotite phyllite, tremolite calcite quartzite and sparse marble
- D6v4** Bright orange weathering, massive, medium grey, ankeritic shale, slate and phyllitic slate

#### DEVONIAN AND LOWER DEVONIAN?

- D6v5** Fairly resistant medium grey weathering, muscovite biotite quartz-feldspathic gneiss with interfoliated chlorite biotite quartzite; quartz chlorite schist, amphibole chlorite schist and minor white marble; the more metamorphosed equivalent of D6v2 and D6v3; relationships between D6v2, D6v3 and D6v5 are gradational; in the southeast part of the area D6v4 and D6v5 are gradational with each other

#### DEVONIAN AND LOWER DEVONIAN?

- D6v6** Buff weathering, biotite garnet muscovite schist with interfoliated lenses of coarsely crystalline, light grey marble; includes minor augen gneiss; arbitrary
- D6v7** Blocky, medium grey weathering, biotite muscovite quartz feldspar augen gneiss of quartz schist; laterally gradational to D6v6; boundaries arbitrary
- D6v8** Injection migmatite consisting of sills and dykes of fine grained biotite quartz monzonite, apfite and pegmatite, in biotite muscovite augen gneiss and schist; proportion of injected plutonic rocks to host schist varies widely; contacts with Km are arbitrary, based on the proportion of plutonic rock to schist
- D6v9** Augen gneiss Dn injection migmatite Dn and biotite quartz monzonite Km undifferentiated

#### DEVONIAN AND LOWER DEVONIAN?

- D6v10** Dark grey weathering, medium grey silty slate with some interbedded greywacke made up of white quartz grit in a greenish matrix
- D6v11** Rusty weathering, green, white and purple banded hornfels; thermally metamorphosed equivalents of the late Windermere green silty slate (E6S)

## LEGEND NORTHEAST OF TINTINA FAULT

### POST-TECTONIC EXTRUSIVE AND SEDIMENTARY ROCKS

- QV6** Recessive, brown weathering, fresh brown basalt and basalt breccia
- QV6a** Columnar jointed, brown weathering fresh olivine basalt
- Tertiary**
  - T5ca** White weathering, poorly indurated sandstone, conglomerate and shale; shale is brown and thin bedded with abundant coaly partings and plant debris; sandstone is coarse grained, poorly sorted and has beds to a metre thick; conglomerate, in beds to 20 metres thick, includes pebbles and cobbles of quartz, quartz schist, green basalt and red cherty tuff in a sandy matrix of quartz feldspar and muscovite.
  - T6a** Buff weathering, white, phyllite with small phenocrysts of quartz and feldspar in an extremely fine grained kaolinitized groundmass

### INTRUSIVE ROCKS POST- (SSYN-?) TECTONIC

- CR** Fresh, acid and intermediate, subvolcanic and volcanic rocks including two main types not differentiated, a dark weathering dacite with stubby hornblende in a dark green aphanitic groundmass and rusty weathering phyllite with clear quartz and white albite phenocrysts (locally pyritic)
- Kmp** Blocky, resistant, medium grey weathering, fine-grained biotite quartz monzonite with sandy quartz and white albite phenocrysts (locally pyritic); gradational with Km
- Km** Resistant, blocky weathering, mainly equigranular medium-grained, but locally porphyritic (white K-feldspar); homogeneous grey biotite quartz monzonite and lesser granodiorite; contacts with En are arbitrary and based on the proportion of plutonic rock to the schist
- Kqm** Biotite quartz monzonite with numerous screens and pods of schist and gneiss, mainly En; contacts with En are arbitrary
- M6S1c** Dark grey weathering, equigranular medium-grained hornblende diorite; occurs as sills

### ALLOCHTHONOUS ROCKS OMINECA CRYSTALLINE BELT

#### SIMPSON RANGE ALLOCHTHONOUS ASSEMBLAGE

##### DEVONIAN TO TRIASSIC

- M6M** Resistant, medium grey weathering porphyritic (pink K-feldspar) biotite quartz monzonite; generally fresh to weakly saussuritized, locally shattered and reconstituted, but lacking the cataclastic texture of M6Mn; includes PM gne undifferentiated
- M6Mn** Massive, resistant, medium grey weathering, blocky, dark green protomylonite and dolomite derived from hornblende granodiorite to quartz diorite. It places the original texture and minerals are fairly fresh and the rock is equigranular medium-grained with subhedral hornblende and blue quartz grains. For the most part the rocks are strongly saussuritized and now appear as quartz chlorite feldspar schist. Locally subhedral white K-feldspar crystals to 5 cm. across are grown across the cataclastic texture. May include M6M undifferentiated.
- M6Mn1** Light rusty weathering, yellow greenish mylonite and ultramylonite derived from hornblende quartz diorite. Boundaries with M6Mn are arbitrary.

##### ANWIL-CAMPBELL ALLOCHTHONOUS ASSEMBLAGE

##### CARBONIFEROUS AND PERMIAN (POSSIBLY OLDER)

- CPAv** Resistant, dark grey weathering, massive, dark green amphibolite basalt and minor augen porphyry; includes CPA and CPAa undifferentiated
- CPAb** Recessive, Jasper-red and apple-green chert and cherty tuff; includes CPA undifferentiated
- CPAb1** Dark grey weathering, resistant, massive medium-grained pyroxene gabbro; includes CPA and CPAa undifferentiated
- CPAb2** Resistant, dark brown weathering, ductile, peridotite and pyroxenite and serpentinized equivalents; includes CPA and CPAa undifferentiated
- CPAc** Yellow green weathering, serpentinized peridotite and pyroxenite; includes CPA and CPAa undifferentiated
- CPAc1** Resistant, orange weathering quartz carbonate rock with minor green chromian muscovite; includes CPA and CPAa undifferentiated

##### AUTOCHTHONOUS AND PARAUTOCHTHONOUS ROCKS PELLY-CASSIAR PLATFORM

#### CARBONIFEROUS OR PERMIAN

- PC** White weathering, resistant, massive light grey recrystallized crinoidal limestone; commonly has well developed flaser texture and grades into a marble blastomylonite; includes minor EPA undifferentiated
- ML** Rusty orange weathering, pale green cherty textured volcanic rocks of intermediate composition with less greenish chert; minor black slate; massive medium grey intermediate lapilli tuff

#### DEVONIAN AND MISSISSIPPIAN

- U6M** Resistant, dark grey, chert pebble conglomerate with minor interbedded black slate. For the most part the rocks have a well developed cataclastic texture so that they grade into graphitic siliceous pyritic slate
- U6Mn** Black recessive weathering, with rusty streaks, thin bedded black siliceous slate with minor interbedded chert grain greywacke and chert granule grit

#### SILURIAN AND LOWER DEVONIAN

- S06** Recessive, dark grey to black weathering thin bedded and platy, calcareous and dolomitic graphitic siltstone with minor black graphitic slate; gradational with S06a and S06b undifferentiated
- S06a** Interbedded, white weathering, resistant, medium bedded, light grey, silty, laminated and quarry dolomite, orthoquartzite and sandy dolomite
- S06b** Silvery white weathering, resistant, medium bedded, medium-grained mature dolomite
- S06c** Resistant, light grey and white weathering, massive, medium grey, medium bedded, laminated to blocky, dolomite; minor sandy dolomite

#### SILURIAN

- S1** Tan weathering, thin bedded to platy, dolomitic siltstone and silty dolomite
- S1n1** White weathering, thinly laminated white and green hornfels; probably the thermally metamorphosed equivalent of S1; may include thermally metamorphosed equivalents of S06a and S06b
- UPPER CAMBRIAN AND OROOVICIAN**
  - KEVIA GROUP**
    - W06A** Orange brown weathering, recessive, medium grey slate and silty phyllite with lenses of pale green tuff; minor calcareous phyllite
  - WINDERMERE AND LOWER CAMBRIAN**
    - E6S1** Dark grey weathering, medium grey silty slate with some interbedded greywacke made up of white quartz grit in a greenish matrix
    - E6S2** Rusty weathering, green, white and purple banded hornfels; thermally metamorphosed equivalents of the late Windermere green silty slate (E6S)