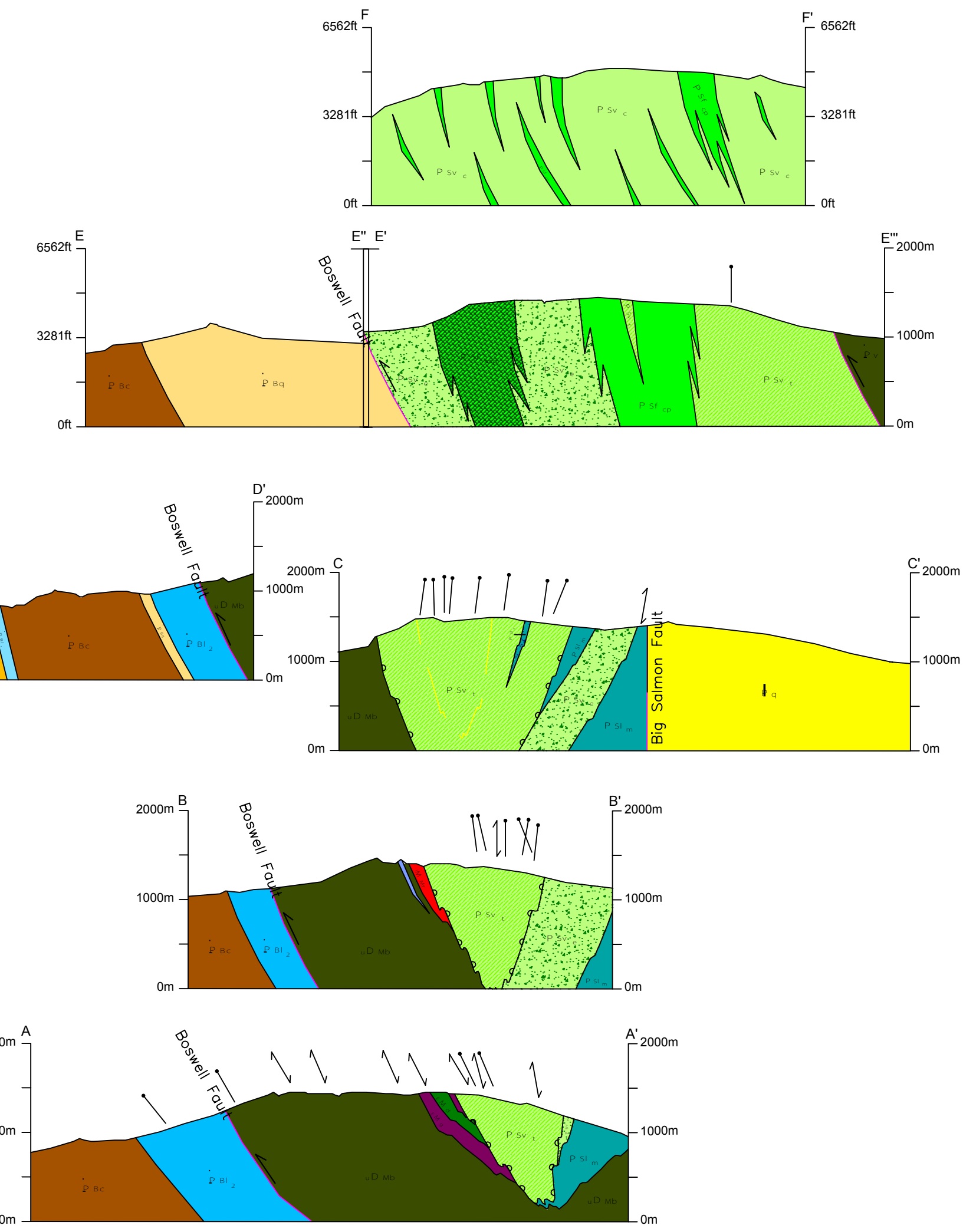


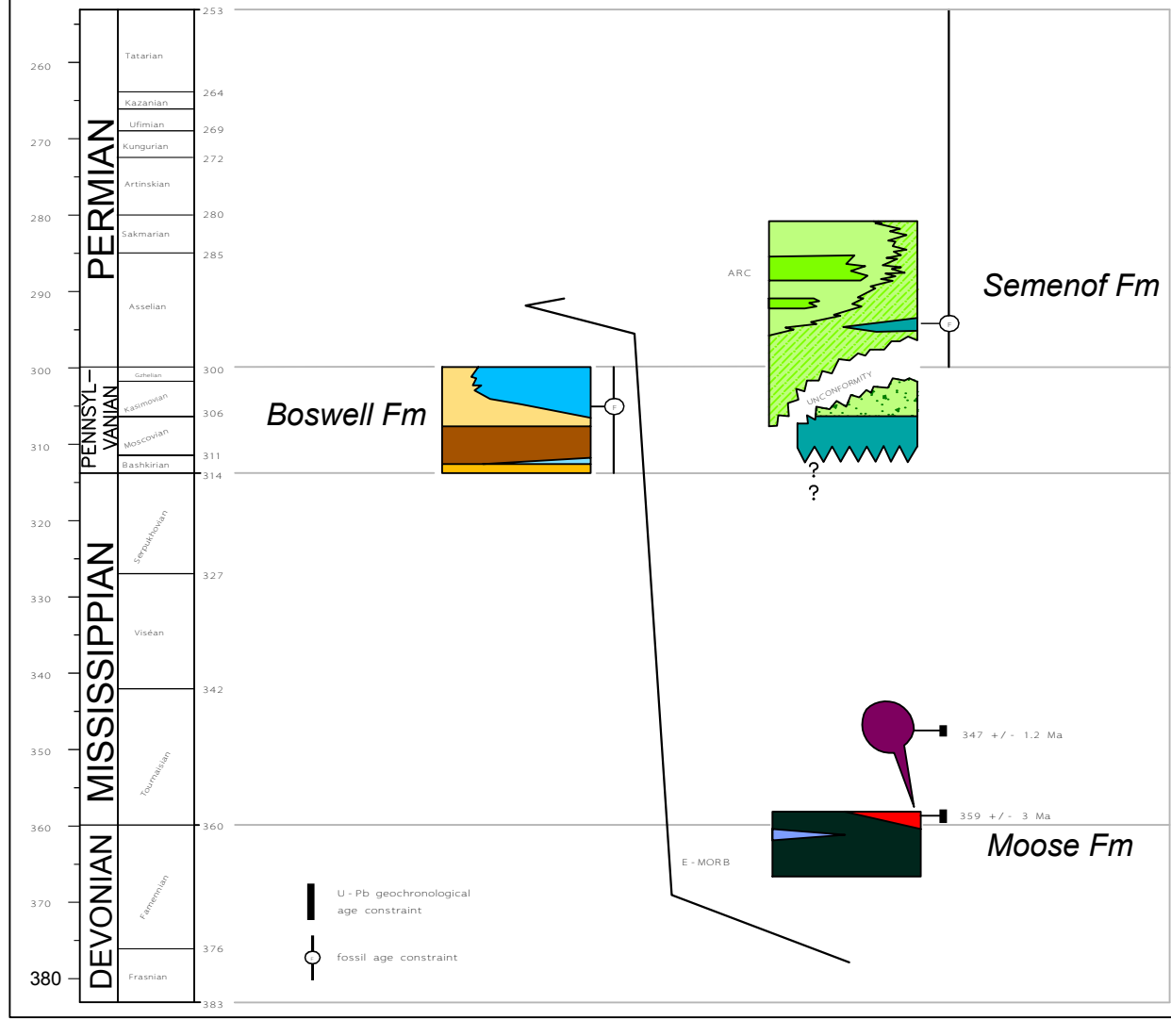
**SCHEMATIC CROSS-SECTIONS**



**LEGEND**

- INTRUSIVE ROCKS**
- EARLY MISSISSIPPIAN**
    - Medium- to coarse-grained, pink to green granite (U-Pb zircon age 347 ± 1.2 Ma); quartz-granitic texture is common in the northern part of this body; intrudes the dioritic phase (L...)
    - Fine- to medium-grained hornblende diorite; intruded by or in enclaves in the granitic phase (L...)
  - LAYERED ROCKS**
  - PERMIAN**
    - Semenof Formation**
      - Porphyritic flow Member**
        - Clinopyroxene-plagioclase-phryc flow facies - Clinopyroxene-plagioclase-phryc, light to medium grey/green massive, locally brecciated (Δ) and/or amygdaloidal mafic flows; locally oxidized to red/purple colour (pattern) in association with copper-filled amygdaloids (★) and sparse malachite
        - Clinopyroxene-phryc flow facies - Clinopyroxene-phryc, dark green, massive, amygdaloidal mafic flows
        - Amphibole-clinopyroxene-plagioclase-phryc flow facies - Amphibole-clinopyroxene-plagioclase-phryc, medium to dark green, massive, locally brecciated, mafic flows
      - Volcaniclastic Member**
        - Volcanic conglomerate facies - Massive dark green/brown/purple/red volcanic pebbles to cobble conglomerate; rounded pebbles and cobbles, often highly amygdaloidal; unsorted, angular, crystal- and litho-rich matrix
        - Tuffaceous facies - Well-bedded light green tuffaceous rocks; mainly coarse-grained crystal and lithic tuff grading into fine-grained ash tuff, with minor beds of lapilli tuff
        - Epiclastic facies - Massive, dark to light gray, mainly volcanic-derived, coarse-grained lithic tuff with minor black argillite beds, and angular, locally derived, clast-supported pebbles to cobble conglomerate; limestone clasts are locally abundant
      - Limestone Member**
        - Massive limestone facies - Massive light grey to beige, massive, moderately recrystallized limestone; abundant quartz veins
        - Conglomeratic limestone facies - Lenses of pebbles to cobble, clast-supported limestone conglomerate; contains 15-30% of angular mafic volcanic and bedded chert clasts and 70-85% rounded fossiliferous limestone clasts
    - PENNSYLVANIAN AND OLDER**
      - Boswell Formation**
        - Beige to grey limestone, lightly to moderately recrystallized; commonly bioclastic
        - Massive dark green mafic volcanic and volcanoclastic rocks; forms resistant ridges within massive limestone (L...)
        - Rusty weathering medium-grained quartz sandstone
        - Calcareous, massive, poorly sorted polymictic conglomerate and litharenite; contains angular fragments of black chert, argillite, mafic and felsic volcanic rocks and limestone
        - Beige to grey limestone
        - Arkasic sandstone and interbedded siltstone
      - Pennsylvanian (Moscovian)**
        - Beige to grey bioclastic limestone; lightly recrystallized
      - PENNSYLVANIAN AND OLDER**
        - Mainly massive dark green mafic volcanic rock; locally contains pillow structures (L...); well-bedded, light green tuffaceous volcanoclastic rocks (L...)
        - Massive red chert
        - Dark grey carbonaceous siltstone; quartz sandstone in places
      - MISSISSIPPIAN AND OLDER**
        - Moose Formation**
          - Felsic Member**
            - Pink rusty quartz-feldspar porphyritic rhyolite (U-Pb zircon age at 359 ± 3 Ma)
          - Basalt Member**
            - Dark green fine-grained massive and pillow basalt
            - Light grey massive limestone
            - Green conglomeratic sandstone with volcanic and sedimentary clasts
        - PALEOZOIC (?)**
          - Foliated interbedded quartzite and siltstone with minor muscovite schist intervals

**STRATIGRAPHIC TIME CORRELATION**



**SYMBOLS**

- Geological contacts (defined, approximate, inferred)
- Unconformity (defined, approximate, inferred)
- Thrust fault (inferred, covered)
- Normal fault (inferred)
- Strike-slip fault (dextral; inferred, covered)
- Unknown movement fault (inferred, covered)
- Fold axial surface trace (synform; upright, overturned)
- Limit of mapping
- Bedding (inclined, upright, overturned)
- Dominant foliation (inclined, vertical)
- Dyke / vein
- Minor fault
- Apparent dip of bedding, foliation (in cross-section)
- Field station
- Fossil locality
- Geochronology sample (U-Pb; zircon; number refers to Geochronology Table)
- Winter roads
- Trails
- Wetlands

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Digital cartography and drafting by Ren?e-Luce Simard, Yukon Geological Survey.

Any revisions or additional geological information known to the user would be welcomed by the Yukon Geological Survey.

Paper copies of this map, the accompanying report and Yukon MINFILE may be purchased from Geoscience Information and Sales, c/o Whitehorse Mining Recorder, Energy, Mines and Resources, Yukon Government, P.O. Box 2703 (K102), Whitehorse, Yukon, Y1A 2C6, Ph. 867-667-5200, Fx. 867-667-5150, Email geosales@gov.yk.ca.

A digital PDF (Portable Document File) file of this map may be downloaded free of charge from the Yukon Geological Survey website: www.geology.gov.yk.ca.

Keep this map in a dark area to keep colours from fading.

Yukon Geological Survey

**GEOLOGICAL MAP OF SOUTHERN SEMENOV HILLS (part of NTS 105 E/1,7,8), SOUTH-CENTRAL YUKON (1:50 000 scale)**

by  
Ren?e-Luce Simard  
Dalhousie University

**GEOCHRONOLOGY**

- a sample of coarse grained rusty pink quartz-phryc granite (01MC205) yielded a concordant U/Pb age of 347 ± 1.2 Ma (J. K. Mortensen, pers. comm., 2002).
- a sample of rusty pink quartz-feldspar porphyritic rhyolite (02RLS-28-10) yielded a concordant U/Pb of 359 ± 3 Ma (J. K. Mortensen, pers. comm., 2003).

**FOSSIL COLLECTION**

Sample No.	Fossil	Period	Reference
④ C-08709	Idiogoniodus cf. I. sinuosus	Pennsylvanian through Early Permian, probably Pennsylvanian (I. sinuosus; Bashkirian)	Poulton et al. 1999 Tempelman-Kluit, 1984
④ C-79700	echinoderm columnals chonetid brachiopods	Probably Carboniferous or Permian	Poulton et al. 1999 Tempelman-Kluit, 1984
④ C-82676	?Bothriophyllum sp.	Late Carboniferous or Permian	Poulton et al. 1999 Tempelman-Kluit, 1984
④ C-82675	Fusulinella sp. Fusulinella sp. Pseudobolinites sp. ("Eubolinites") sp. Nankinella sp.	Middle Carboniferous, Moscovian, lower to middle part	Poulton et al. 1999 Tempelman-Kluit, 1984
④ C-82677	Profusulinella sp. Fusulinella sp. Eoschubertella sp. Wadeschubertella sp. Bradyina sp. Kornia (algae) bivalve forams	Middle Carboniferous, Moscovian, lower part of Upper Moscovian	Poulton et al. 1999 Tempelman-Kluit, 1984
④ 02RLS-28-28	conodonts	Permian	M. Orchard, pers. comm. 2003

**MINERAL OCCURRENCE**  
Deklerk (2002)

Yukon MINFILE	Name	Commodity
Vein		
105E 003	Mink, Beaver, Loon	Au-Cu (Ag-Pb)
105E 020	Sylvia	Zn-Pb (Ag-Au-Cu)
105E 057	Milner	coal
Exploration target		
105E 004	Bee	Cu
105E 005	Napua	pyritic gossan
105E 021	Coltoneva	placer potential?
105E 041	Enof	Au
105E 042	Lake, NC, REN, Solis, Lone, Cam	Au
105E 043	Germ	Au
105E 048	Marbee	placer potential?

**SOUTHERN SEMENOV HILLS**  
YUKON  
SCALE 1:50 000

