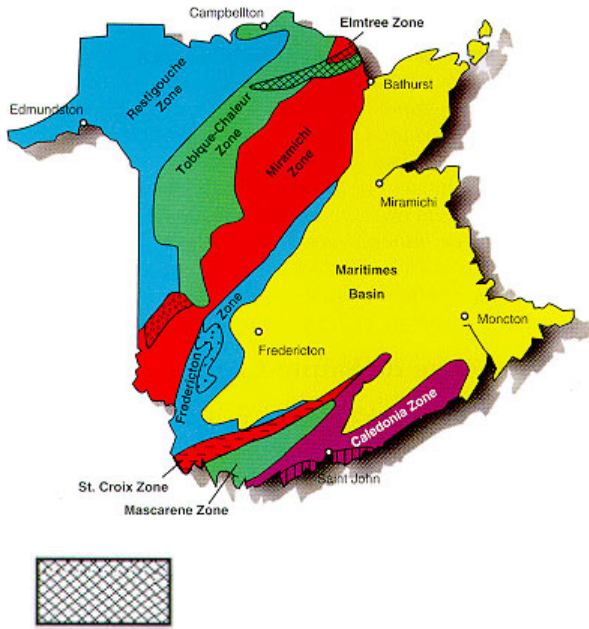


## Epigenetic Gold and Antimony Deposits



### Tobique-Chaleur and Elmtree Zones

#### Gold-bearing Vein and Breccia Deposits

- Host Rocks: Ordovician gabbro and associated sedimentary rocks; Siluro-Devonian mafic to intermediate intrusions and associated sedimentary rocks
- Tectonic Setting: Siluro-Devonian transpressive shear zones proximal to terrane boundaries
- Genetic Model: Auriferous CO<sub>2</sub>-rich fluids, derived from mafic magmas and/or scavenged from the lower crust during metamorphic dehydration reactions, were released in dilatent structures at various levels in the crust
- Ore Controls/Guides to Exploration: Transpressive shear zones, breccia zones, mafic to intermediate intrusions, Fe-carbonate alteration, silicification, arsenopyrite
- Examples: Elmtree: 6.0 g/t Au over 11 m; Rocky Brook: 5.7 g/t Au over 0.3 m; Madran: 2.2-8.0 g/t Au over 0.9-3.0 m



### Miramichi Zone

#### Gold-Bearing Vein and Porphyry Stock Deposits

- Host Rocks: Early Ordovician granodiorite and associated sedimentary rocks
- Tectonic Setting: Siluro-Devonian transpressive shear zones proximal to terrane boundaries
- Genetic Model: Auriferous CO<sub>2</sub>-rich fluids, derived from mafic magmas and/or scavenged from the lower crust during metamorphic dehydration reactions, were released in dilatent structures at various levels in the crust
- Ore Controls/Guides to Exploration: Dilatent structures associated with transpressive shear zones
- Example: Britton Mine: 4.9 g/t Au and 130 g/t Ag from grab samples



## Fredericton Zone

### Gold-Bearing Skarn Deposits

- Host Rocks: Skarn near Siluro-Devonian batholith
- Tectonic Setting: Siluro-Devonian transpressive shear zones proximal to terrane boundaries
- Genetic Model: Auriferous CO<sub>2</sub>-rich fluids, derived from mafic magmas and/or scavenged from the lower crust during metamorphic dehydration reactions, were released in dilatent structures at various levels in the crust
- Ore Controls/Guides to Exploration: Silicified stockwork zones in skarn
- Example: Lake George antimony mine: 18.5 g/t Au over 0.8 m and 7.5 g/t Au over 2.1 m



## St. Croix Zone

### Gold-Bearing Vein and Porphyry Stock Deposits

- Host Rocks: Ordovician/Silurian sedimentary and/or mafic volcanic rocks
- Tectonic Setting: Siluro-Devonian transpressive shear zones proximal to terrane boundaries
- Genetic Model: Auriferous CO<sub>2</sub>-rich fluids, derived from mafic magmas and/or scavenged from the lower crust during metamorphic dehydration reactions, were released in dilatent structures at various levels in the crust
- Ore Controls/Guides to Exploration: Transpressive shear zones, silicification, carbonate and locally chrome-mica alteration, felsic porphyry
- Examples: Annidale: 3.1 g/t Au over 1.7 m; Clarence Stream: 455 000 t averaging 8.8 g/t Au;
- Jimmy Hill: 9.5 g/t Au over 0.7 m; Evandale: 7.2-16.1 g/t Au over 0.15-0.5 m



## Caledonia Zone

### Gold-Bearing Vein Deposits

- Host Rocks: Cambrian or younger sedimentary rocks and Late Precambrian granite
- Tectonic Setting: Late Carboniferous thrust zone proximal to terrane boundary
- Genetic Model: Auriferous CO<sub>2</sub>-rich fluids, derived from the lower crust during metamorphic dehydration reactions, were released in dilatent structures at various levels in the crust
- Ore Controls/Guide to Exploration: Dilatent structures associated with thrusts, silicification and illite alteration
- Example: Cape Spencer: 606 790 t averaging 3.3 g/t Au, 249 470 t averaging 2.3 g/t Au and 330 000 t averaging 8.9 g/t Au

[Underexplored New Brunswick offers tremendous potential for new gold discoveries](#)

[New Brunswick offers variety of gold environments](#)