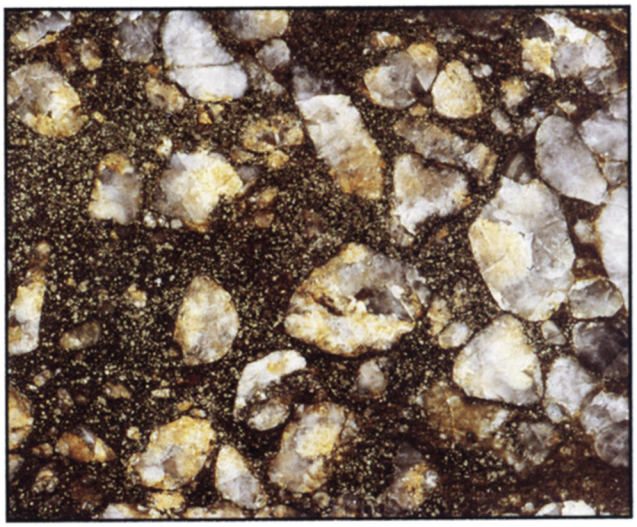

Plate 1. ***Deposit subtype 1.1,*** Paleoplacer uranium, gold; Uraniferous, pyritic quartz-pebble conglomerate. The uranium minerals (mainly uraninite and a uranium-titanium phase; see Pl. 2) occur in the matrix, associated with pyrite (white) and other heavy minerals. AB reef, Denison mine, Elliot Lake, Ontario. Maximum dimension of photo is 14 cm.
GSC 1995-200A

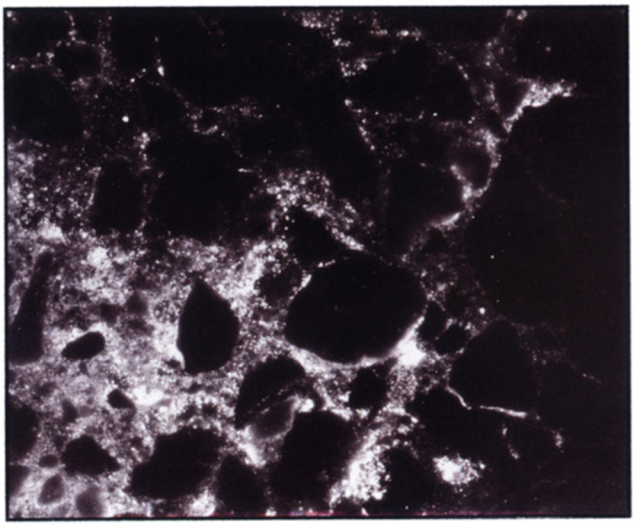

Plate 2. ***Deposit subtype 1.1,*** Paleoplacer uranium, gold; Autoradiograph of the sample shown in Plate 1. The white areas are caused by radiation from uranium- and thorium-bearing minerals. The distribution of radioactive minerals and pyrite is similar, but different in detail. Elliot Lake, Ontario.

Plate 3. ***Deposit subtype 1.2,*** Placer gold, platinum. Gold nuggets from the Klondike area, Yukon Territory. NRCan Photo 8397

Plate 4. ***Deposit subtype 1.2,*** Placer gold, platinum. Basal part of gold-bearing high-level White Channel bench gravels (white) with remnants of Klondike gravels (brown). Early placer miners (ca. 1902) followed the lower bedrock surface with a timbered drift (about 1.2 m wide). Later bench mining was done hydraulically and with bulldozer in 1960. Paradise Hill on Hunker Creek, Klondike area, Yukon Territory. GSC 202282V

Plate 5. ***Deposit type 3,*** Stratiform iron. Dolomite drop-stone of glacial origin in jasper-hematite lithofacies of Rapitan type iron-formation, Snake River area, Yukon Territory. GSC 1995-202

Plate 6. ***Deposit subtype 3.1,*** Lake Superior-type iron-formation. Jasper-hematite lithofacies of Lake Superior type iron-formation, Knob Lake-Schefferville area, Quebec-Labrador. GSC 1995-203A

Plate 7. ***Deposit subtype 3.1,*** Lake Superior-type iron-formation. Jasper-hematite-magnetite facies of iron-formation, showing typical, relatively thick, well preserved sedimentary bedding. Magnet is 3.5 cm. Schefferville area, Quebec-Labrador. GSC 1995-203B

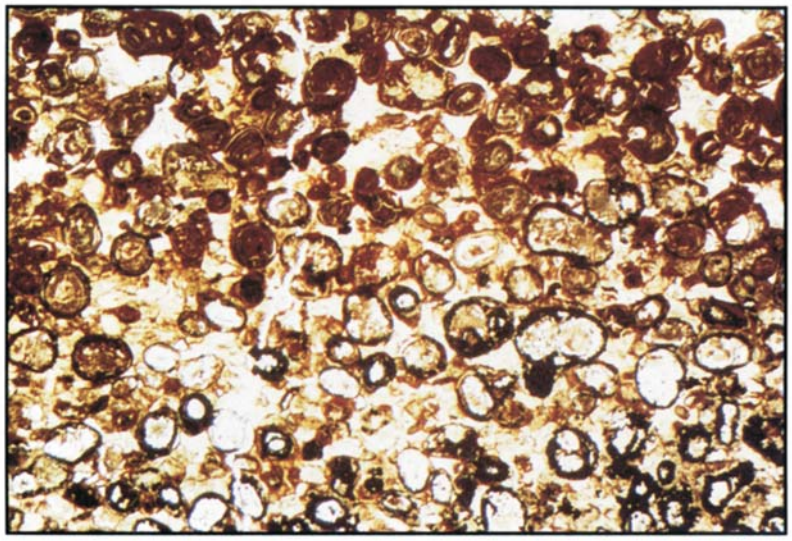

Plate 8. ***Deposit subtype 3.1,*** Lake Superior-type iron-formation. Photomicrograph of typical hematite-magnetite-chert oxide lithofacies in the Lower Red Chert member of the Sokoma Formation. Typical granular and oolitic texture; ooides of hematite (red), partly recrystallized to magnetite (black), and fine grained quartz (chert) in the granular matrix. Maximum dimension of photo is 13 mm. Near Wishart mine, Schefferville area, Quebec-Labrador. GSC 1995-203C

Plate 9. ***Deposit subtype 3.2,*** Algoma-type iron-formation. Quartz-feldspar layers in highly contorted magnetite-quartz lithofacies of iron-formation. Moose Mountain mine, Ontario. GSC 1995-204A

Plate 11. ***Deposit subtype 4.1,*** Enriched iron-formation. Early stages of mining the G-orebody at Steep Rock Lake, Ontario (1958). Massive hematite-goethite ore (red) derived from carbonate and sulphide lithofacies of Algoma-type iron-formation protore. GSC 1995-204C

Plate 10. ***Deposit subtype 3.2,*** Algoma-type iron-formation. Pyrite-pyrrhotite, siderite, and quartz layers in carbonate-sulphide lithofacies of iron-formation. Wawa area, Michipicoten district, Ontario. GSC 1995-204B

Plate 12. ***Deposit type 5,*** Evaporites. Folded halite beds. Rock Salt mine, Pugwash, Nova Scotia. NRCan Photo 2950

Plate 13. ***Deposit subtype 6.1,*** Sedimentary exhalative sulphides (Sedex). Sphalerite, pyrite, and galena form finely laminated sedimentary beds within a mudstone that also contains nodular pyrite in the upper, carbonaceous cherty mudstone unit of the Active Member (Lower Silurian; Road River Group). Buckle folding and dewatering during early diagenesis resulted in pressure solution and diffusive mass transfer (40% shortening) that led to loss of silica and accumulation of sphalerite and garnet in striped cleavages. Howards Pass XY deposit, Selwyn Basin, Yukon-Northwest Territories. GSC 1995-205

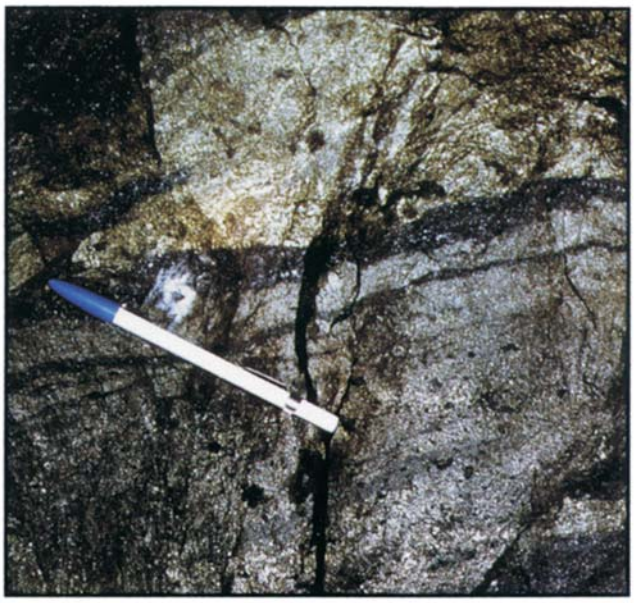

Plate 14. ***Deposit subtype 6.3,*** Volcanic-associated massive sulphide base metals. Well-bedded massive pyrite (brass-yellow), chalcopyrite (bright yellow), and sphalerite (dark metallic blue-grey). Lac Dufault mine, Rouyn-Noranda, Quebec. GSC 1995-209

Plate 15. ***Deposit subtype 6.3,*** Volcanic-associated massive sulphide base metals. Alteration zone and mineralization developed within talus breccia, 10 m below a massive sulphide lens. The breccia matrix is infilled with coarse grained sphalerite. Pillow basalt fragments exhibit zoned alteration from core to rim; chlorite, quartz, sericite, and sphalerite, respectively. Corbet mine, No. 3 lens, 15 level, Rouyn-Noranda, Quebec. GSC 1995-206A

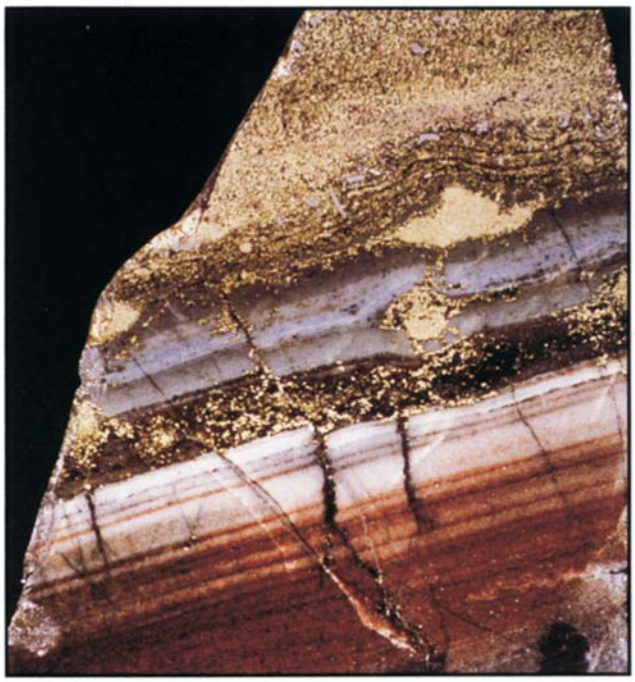

Plate 16. ***Deposit subtype 6.3,*** Volcanic-associated massive sulphide base metals. Delicately laminated aquagene quartz porphyry tuff; coarser parts of normally graded beds have been impregnated and replaced, first by sphalerite/pyrite (brown and black) then by chalcopyrite/pyrrhotite (yellow/grey). This process is a microcosm of the mineralizing events that led to the formation of the replacement-type deposit. Ansil mine, level 9C, Rouyn-Noranda, Quebec. Minimum dimension of photo is 5 cm. GSC 1995-211A

Plate 17. ***Deposit subtype 6.3,*** Volcanic-associated massive sulphide base metals. Chalcopyrite-pyrrhotite vein stockwork directly underlying a massive sulphide lens. Ansil mine, sublevel 8A, crosscut no. 2, Rouyn-Noranda, Quebec. Roof bolt plates are 20 cm wide. GSC 1995-211B

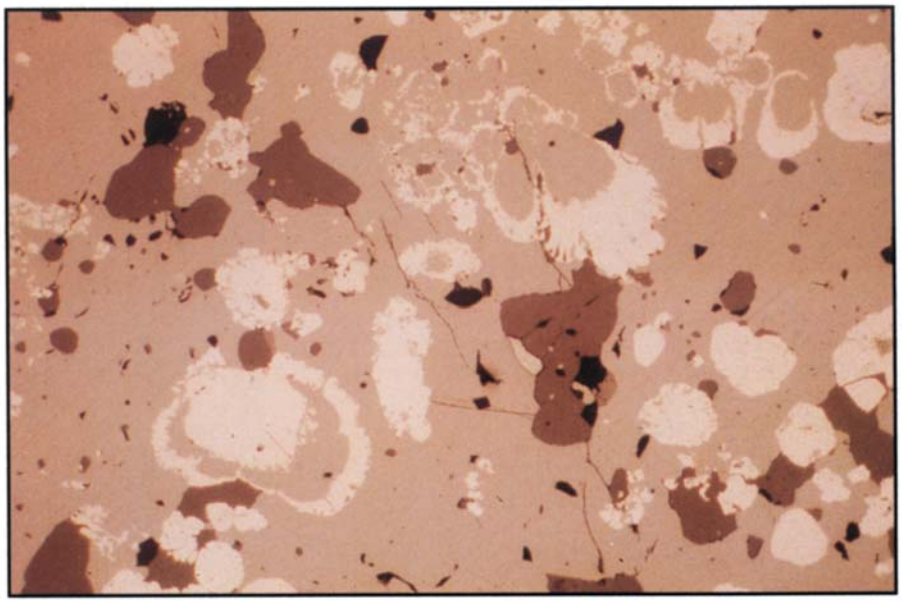

Plate 18. ***Deposit subtype 6.4,*** Volcanic-associated massive sulphide gold. Primary ore textures; dark grey quartz, light grey sphalerite, and pale yellow pyrite. Note primary botryoidal texture of pyrite. Mattabi mine, Sturgeon Lake district, Ontario. Photomicrograph, reflected light, maximum dimension is 2.5 mm. GSC 1995-212

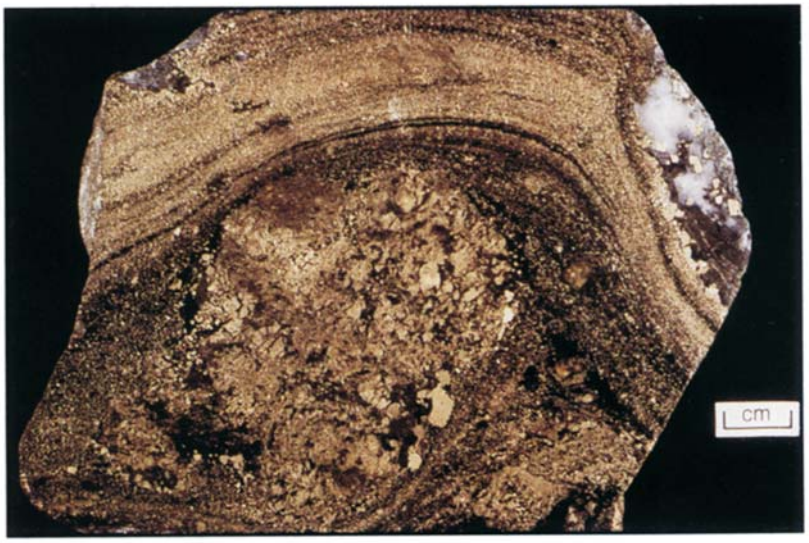

Plate 19. ***Deposit subtype 6.4,*** Volcanic-associated massive sulphide gold. In this strongly deformed deposit, recrystallized chalcopyrite and pyrite comprise boudins, around which sphalerite, minor associated galena, and incorporated granular pyrite have flowed. Estrades mine, Joutel, northwestern Quebec. GSC 1995-206B

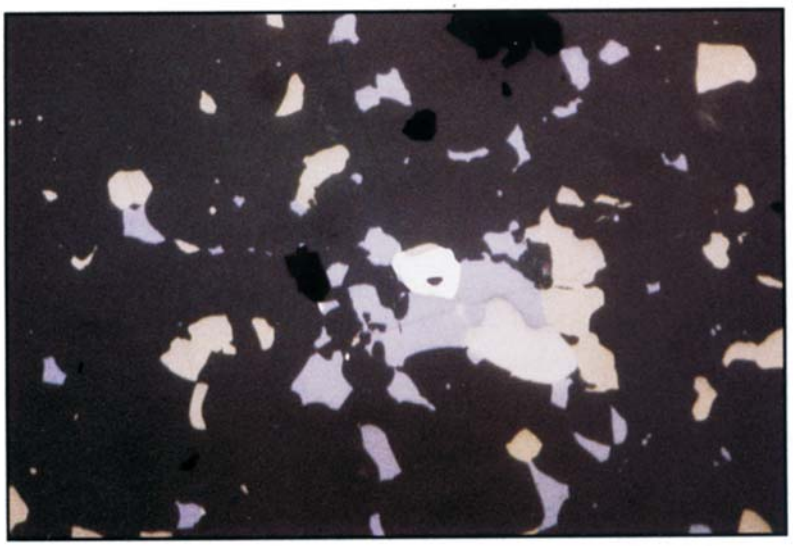

Plate 20. ***Deposit subtype 6.4,*** Volcanic-associated massive sulphide gold. Electrum (bright yellow), intergrown with chalcopyrite (pale yellow), galena (white), and pyrrhotite (pale grey) in a matrix of massive sphalerite (grey). Photomicrograph reflected light; the largest grain of electrum is 20 μm in greatest dimension. Estrades mine, Joutel, Quebec. GSC 1995-213

Plate 21. ***Deposit type 10,*** Mississippi Valley-type lead-zinc. Dolomite (black) breccia formed by solution-collapse processes has been infilled with sparry calcite (white) and coarsely crystalline sphalerite (orange). The latter forms a "snow-on-roof" texture due to its precipitation from percolating solutions inside open cavities. Zone B, Gayna River deposit, Gayna River, Northwest Territories. GSC 1995-086B

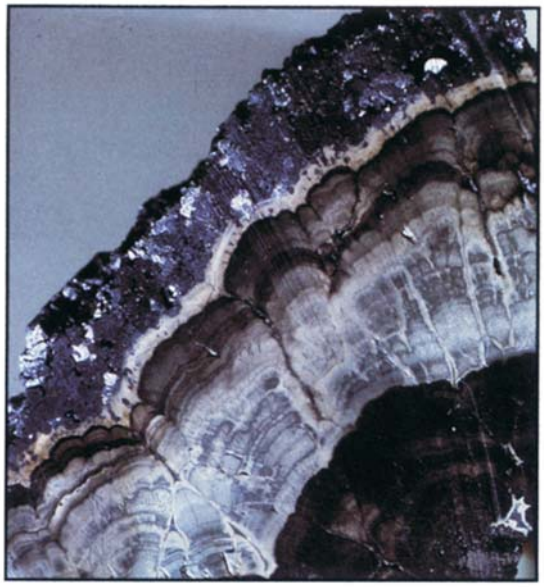

Plate 22. ***Deposit type 10,*** Mississippi Valley-type lead-zinc. Typical botryoidal textured sulphides; layered sphalerite (dark brown and white) is overlain by coarse grained galena (steel blue). Sulphides were precipitated in a cavity, beginning at the lower right, with successive layers added upward into open space; the last sulphide deposited was galena. Minimum dimension of the photo is 5.5 cm. Pine Point mine, Northwest Territories. GSC 1995-214

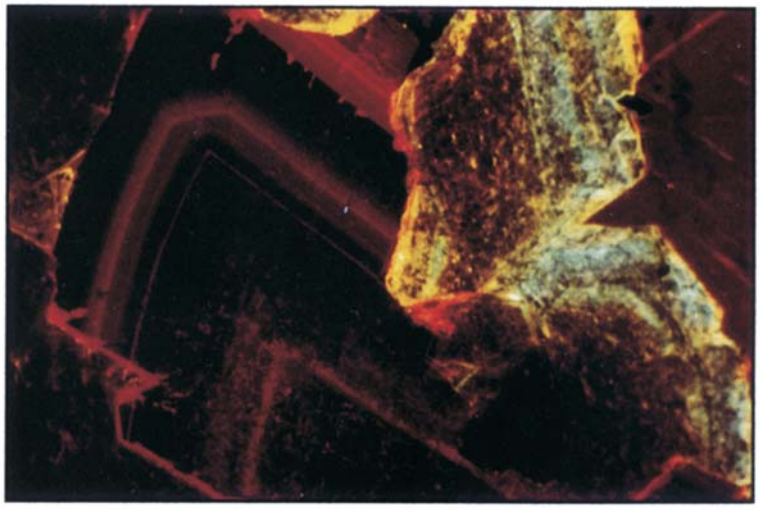

Plate 23. ***Deposit type 10,*** Mississippi Valley-type lead-zinc. Cathodoluminescence photomicrograph of dolomite-cement showing typical saddle-shaped compositional zoning (red and black) associated with lead-zinc mineralization. The dolomite was partially dissolved prior to the deposition of sphalerite (blue, yellow, and brown). Luminescent orange calcite (extreme right) filled remaining cavities. The width (short dimension) of the dolomite grain is 1 mm. Gayna River deposit, Gayna River, Northwest Territories. GSC 1995-215

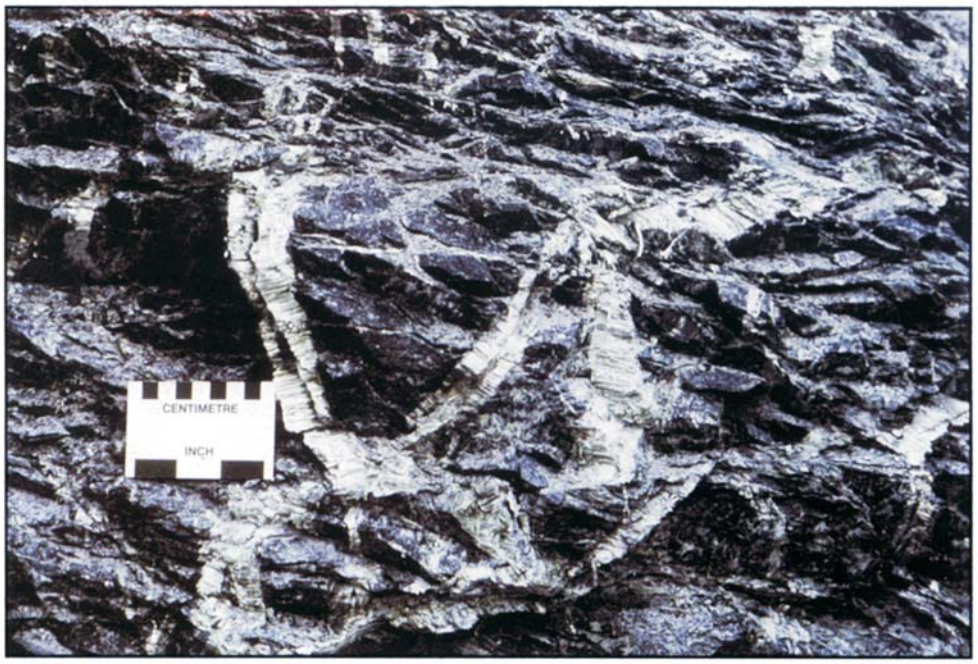

Plate 24. ***Deposit type 11,*** Ultramafic-hosted asbestos. Veins of cross-fibre chrysotile asbestos in serpentinite, Cassiar mine, British Columbia. GSC 1995-216

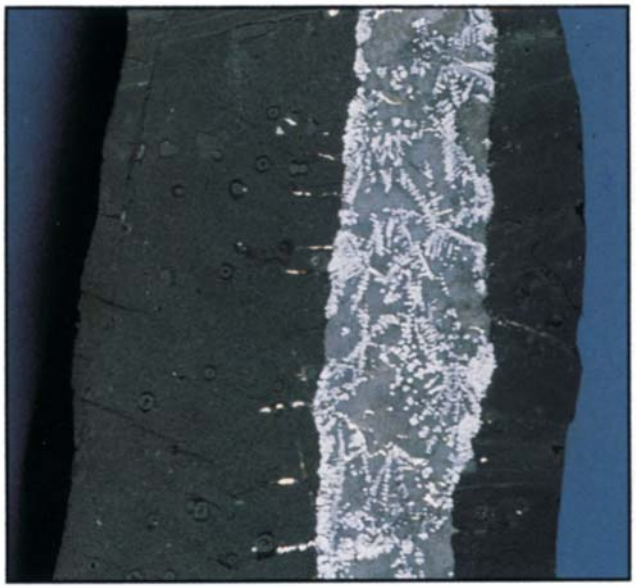

Plate 25. ***Deposit subtype 14.1,*** Arsenide vein silver-cobalt. Vein of safflorite botryoids and dendrites, cored by native silver. Host rock is Huronian Coleman Formation conglomerate (tillite) that is weakly bleached and has chlorite alteration spots close to the vein. Native silver has been precipitated in small tension gashes subparallel to bedding. Maximum width of vein is 3.5 cm. 235 level, Langis mine, New Liskeard, Ontario. GSC 1995-207A

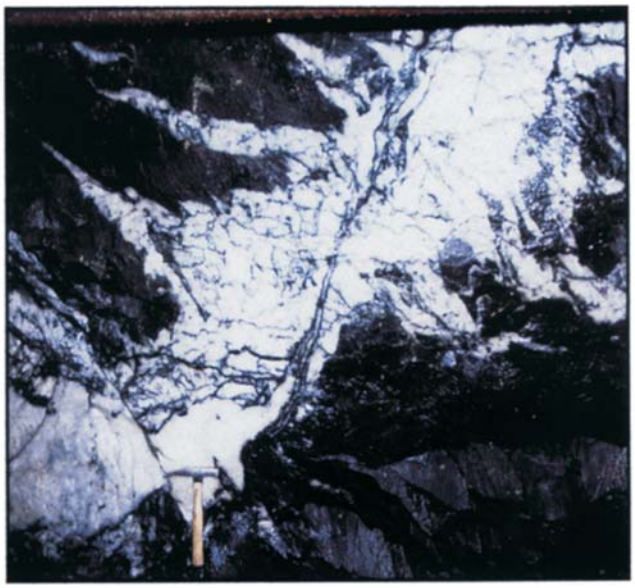

Plate 27. ***Deposit subtype 15.2,*** Quartz-carbonate vein gold. Gold-bearing quartz-carbonate-tourmaline (black) vein in sheared mafic volcanic rocks. The vein is fringed by small extensional veins. Sigma mine, Val d'Or, Quebec.
GSC 1995-222

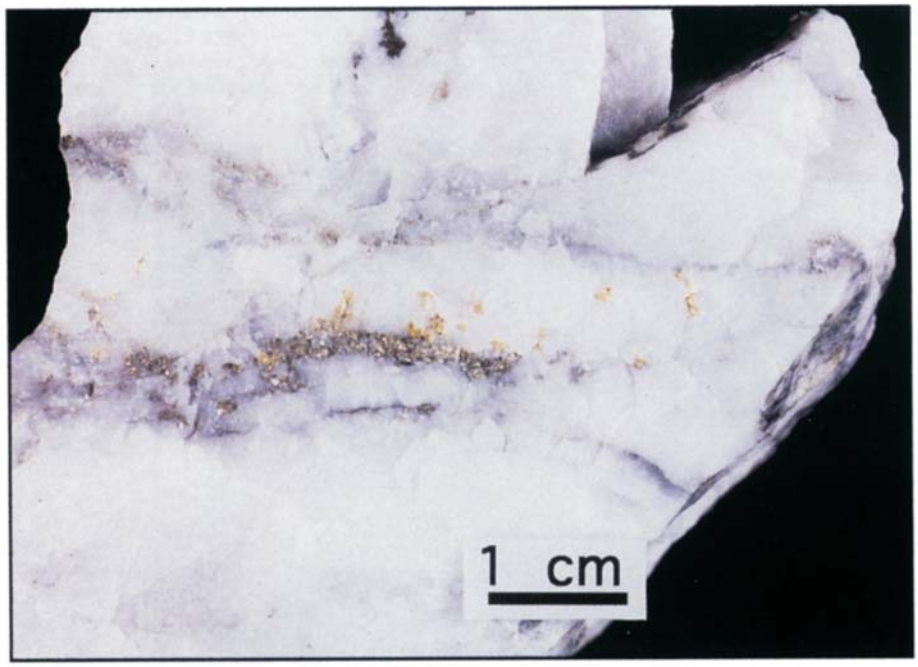

Plate 26. ***Deposit subtype 15.2,*** Quartz-carbonate vein gold. High-grade quartz-calcite vein with coarse gold, associated with minor chlorite, pyrite, chalcopyrite, and tennantite. Gold lies in tiny tension gashes orthogonal to localized shear planes that contain the sulphides. Hearne-Taurus mine, Cassiar, British Columbia.
GSC 1995-208

Plate 28. ***Deposit subtype 15.3,*** Iron-formation-hosted stratabound gold. Arsenic-rich gold-bearing sulphide iron-formation, immediately adjacent to a late quartz vein showing sulphide-arsenide megacrysts distributed along bedding. Lupin mine, Northwest Territories. Scale bar is 1 cm. GSC 1995-201A

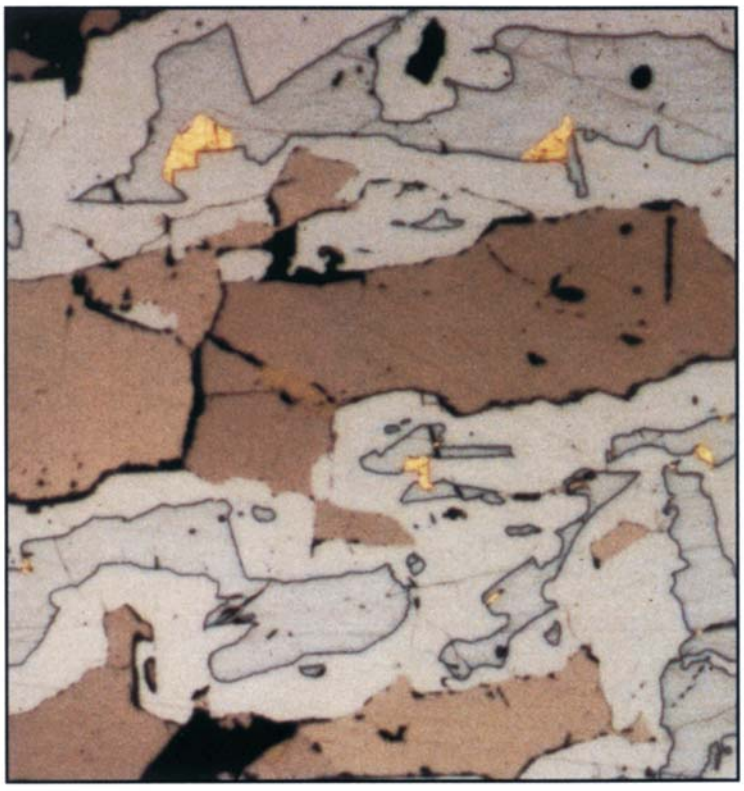

Plate 29. ***Deposit subtype 15.3,*** Iron-formation-hosted stratabound gold. Gold grains (bright yellow) occur along boundaries between arsenopyrite (white rims) and loellingite (bluish cores), within arsenopyrite-loellingite-pyrrhotite (brown) megacrysts (see Pl. 28). Maximum dimension is approximately 0.5 cm. Photomicrograph, reflected light, oil immerson, after dilute nitric acid etch. GSC 1995-201B

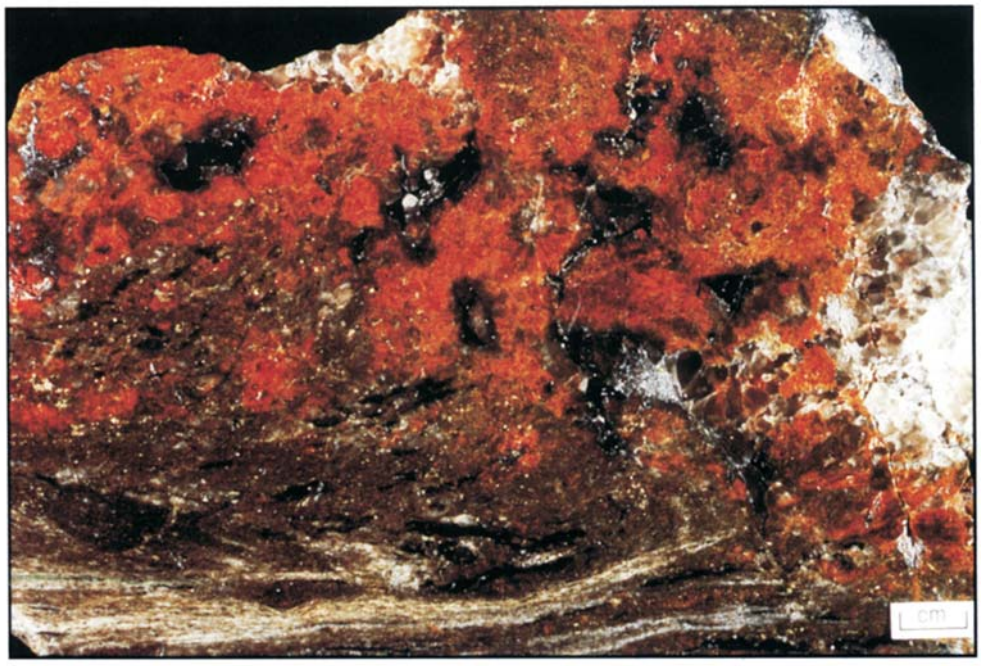

Plate 30. ***Deposit subtype 15.4,*** Disseminated and replacement gold. Boudinaged, recrystallized quartz vein that contains realgar (orange), cinnabar (red), and stibnite (black). Wall rock consists of highly sheared, barian mica schist. Discovery zone ("A" Pit), Williams mine, Hemlo, Ontario. GSC 1995-207B

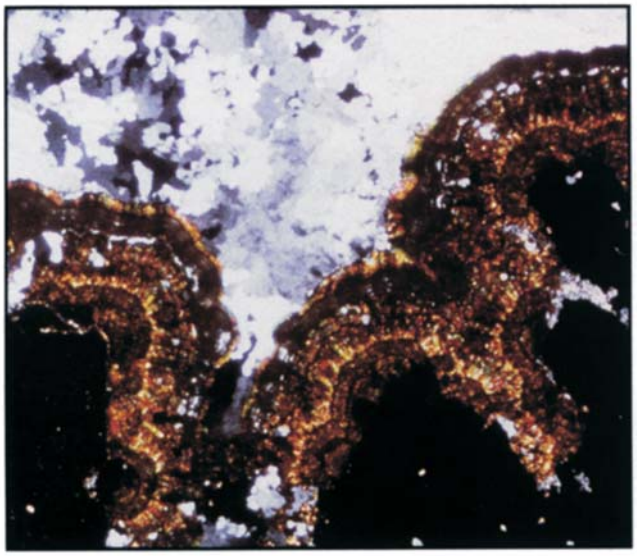

Plate 31. ***Deposit type 18,*** Vein stockwork tin, tungsten. Photomicrograph in transmitted light (crossed nicols) of banded, colloform cassiterite ("wood tin"; various shales of yellow, red, green, and brown) that is overgrown on fluorite (black). Quartz (bright white to grey) is later. Endozone tin deposit, Mount Pleasant, New Brunswick. Maximum dimension of photo is 2.7 mm. GSC 1995-217A

Plate 32. ***Deposit type 18,*** Vein stockwork tin, tungsten. Angular, silicified granite fragments in a dark matrix of fine grained sphalerite and cassiterite in a speciman from a tin-bearing breccia pipe. Fire Tower zone, Mount Pleasant, New Brunswick. GSC 1995-217B

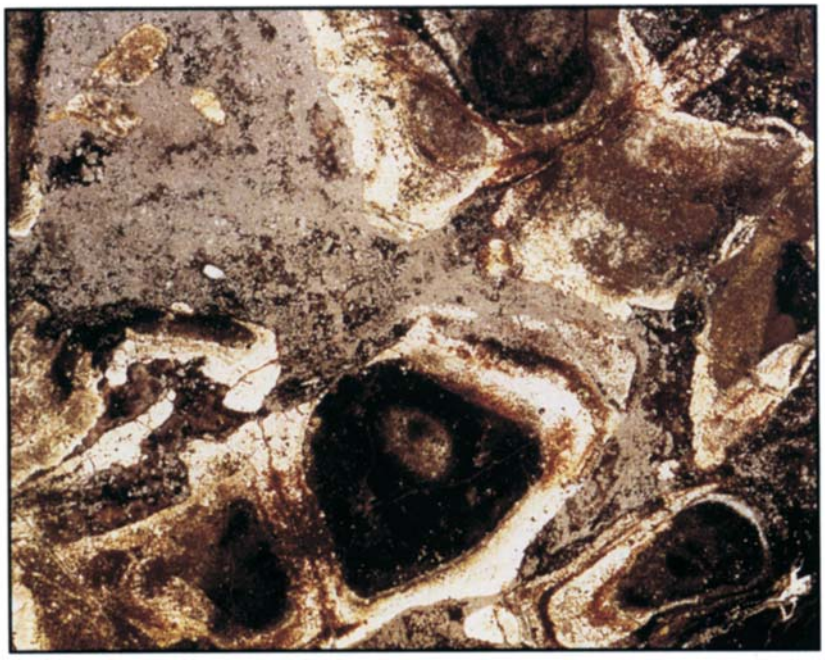

Plate 33. ***Deposit type 18,*** Vein stockwork tin, tungsten. Chloritized breccia fragments of granite (dark green to black) rimmed by fine grained quartz-topaz alteration (white) and cassiterite (brown); breccia matrix consists of arsenopyrite (silver-grey) and fluorite (purple, green). Endozone tin deposit, Mount Pleasant, New Brunswick. Maximum dimension of photo is 18 cm. GSC 1995-217C

Plate 34. ***Deposit type 19,*** Porphyry copper-molybdenum, gold, tungsten, tin, silver. Wolframite-bearing quartz veins in granite, truncated by a slightly later stage of unmineralized granite. Fire Tower zone tungsten-molybdenum deposit, Mount Pleasant, New Brunswick. Minimum dimension of photo is 12 cm. GSC 1995-217D

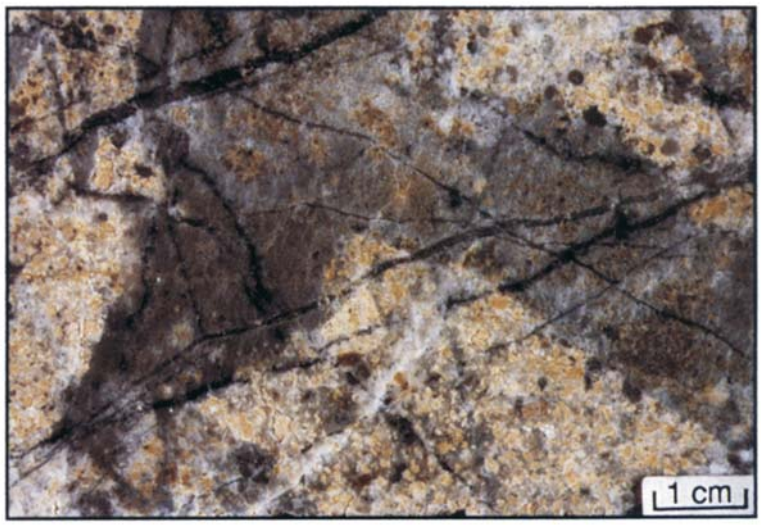

Plate 35. ***Deposit type 19,*** Porphyry copper, molybdenum, gold, tungsten, tin, silver. Molybdenite-bearing quartz veinlets cutting sericitized granodiorite, Red Mountain molybdenum deposit, Yukon Territory. GSC 1995-218

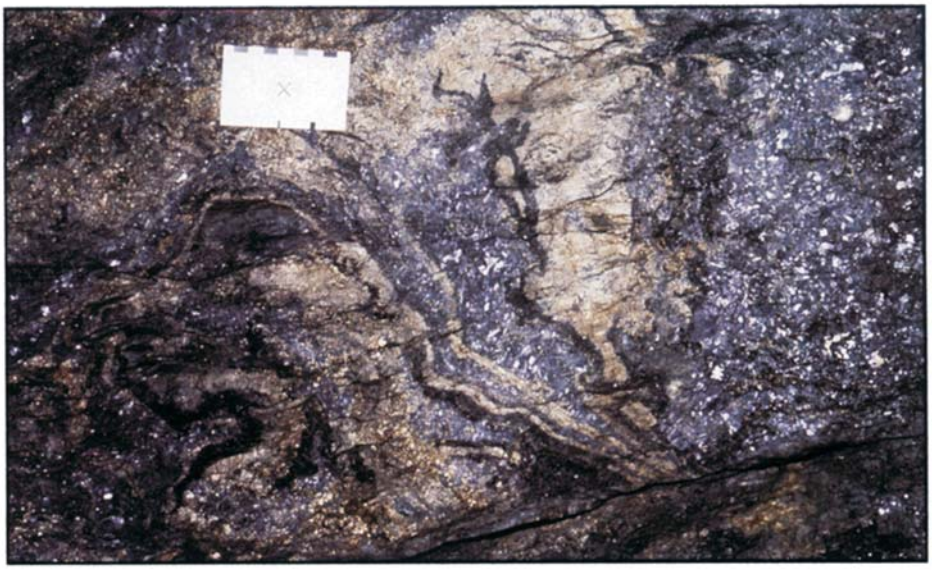

Plate 36. ***Deposit subtype 20.1,*** Skarn zinc-lead-silver. Massive to layereed pyrite-marcasite, sphalerite, and galena. Midway deposit, British Columbia. Scale is in centimetres. GSC 1995-219

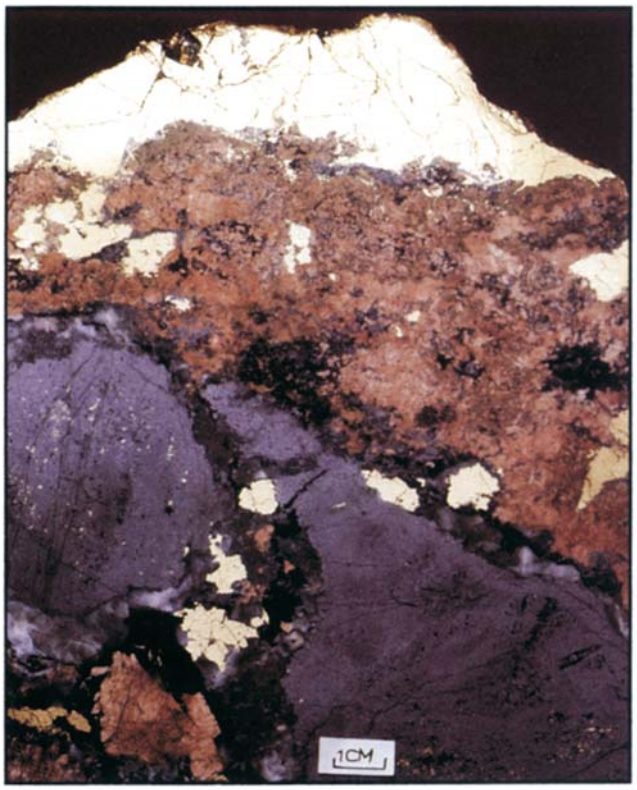

Plate 37. ***Deposit subtype 20.2,*** Skarn copper. Massive pods and coarse disseminated grains of chalcopyrite (bright yellow) with associated magnetite (grey), potassium feldspar (pink), calcite (white to light grey), and chlorite (black). Craigmont mine, British Columbia. GSC 1995-210

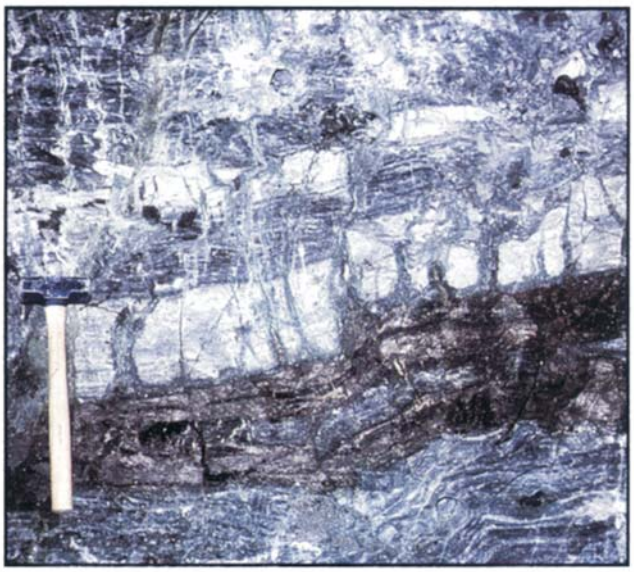

Plate 38. ***Deposit subtype 20.5,*** Skarn tungsten. Pyrrhotite (bronze-brown) with scheelite (not visible) in fractured limestone. E-zone orebody, Cantung mine, Northwest Territories. GSC 1995-220A

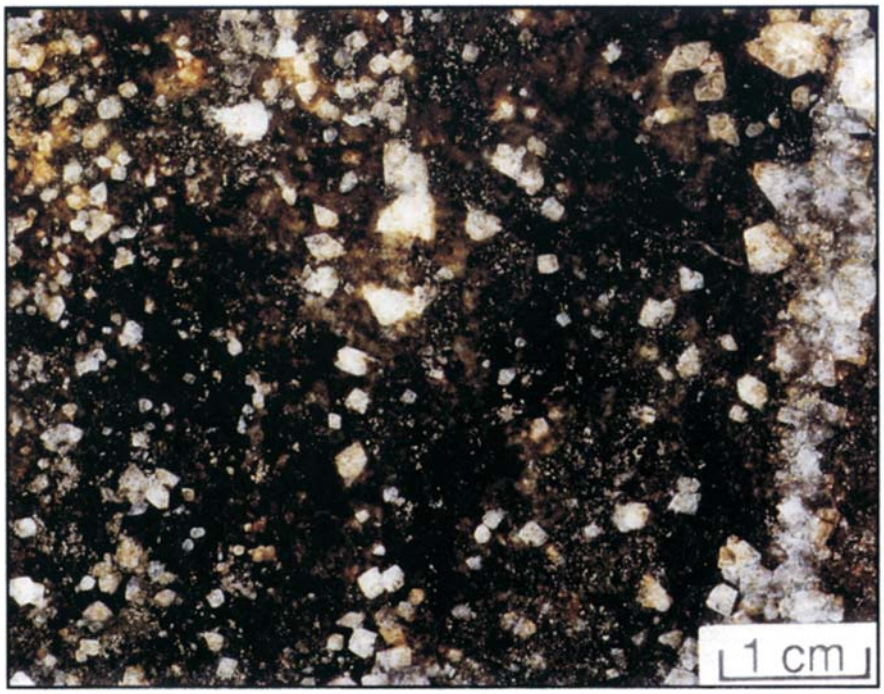

Plate 39. ***Deposit subtype 20.5,*** Skarn tungsten. High-grade tungsten ore; scheelite crystals (white) in biotite-diopside-pyrrhotite skarn. E-zone orebody, Cantung mine, Northwest Territories. GSC 1995-220B

Plate 40. ***Deposit type 21,*** Granitic pegmatites. Zone of beryl crystals (white) between the quartz zone (dark grey) and layered aplites (shades of grey); beryl crystals are generally oriented perpendicular to the contact. Tanco mine, southeastern Manitoba. GSC 1995-223A

Plate 41. ***Deposit type 21,*** Granitic pegmatites. Saccharoidal albite (centre) rimmed by layered aplite that contains disseminated tantalum oxide minerals (black). From the eastern flank of the albitic aplite zone. Tanco mine, southeastern Manitoba. GSC 1995-223B

Plate 42. ***Deposit type 23,*** Peralkaline rock-associated rare metals. Coarse grained, pegmatitic eudialyte (red), sodic amphibole (black), and albite (white) in amphibole-albite-eudialyte gneiss. Kipawa yttrium-zirconium deposit, Quebec. GSC 1995-221A

Plate 43. ***Deposit type 24,*** Carbonatite-associated deposits. Magmatic flow layering in niobium-bearing carbonatite; dark layers are composed of biotite, apatite, and fine grained pyrochlore. Niobec mine, Quebec. GSC 1995-221B

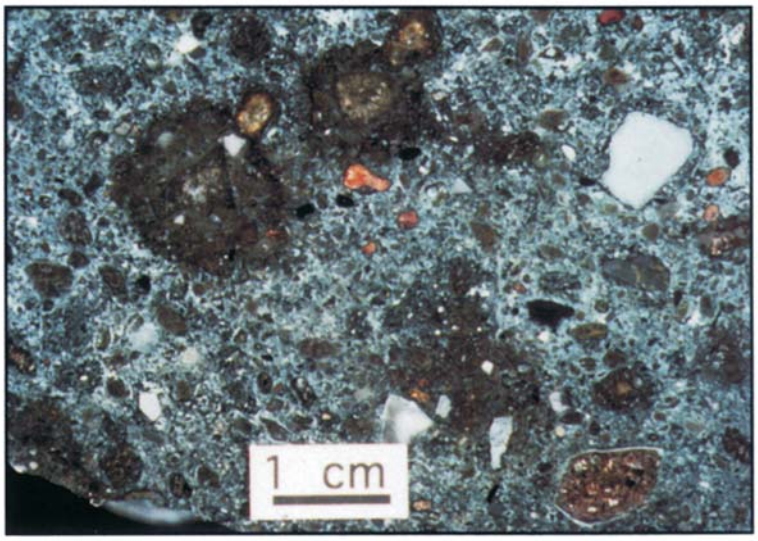

Plate 44. ***Deposit subtype 25.1,*** Kimberlite-hosted diamond. Tuffisitic kimberlite (diatreme facies), composed dominantly of pelletal lapilli, altered olivine (yellow-green), crustal limestone xenoliths (white), and garnet xenocrysts (red). Guigues pipe, Kirkland Lake-Timiskaming kimberlite field, Guigues Township, Quebec. GSC 1995-224

Plate 45. ***Deposit subtype 27.1,*** Nickel-copper sulphide. Typical disseminated nickel-copper-bearing sulphides in inclusion-rich noritic sublayer of the Sudbury Igneous Complex. Most of the larger, sulphide-free areas are inclusions. Longest dimension of sample is approximately 20 cm. Clarabelle mine, Sudbury, Ontario. GSC 1995-225A

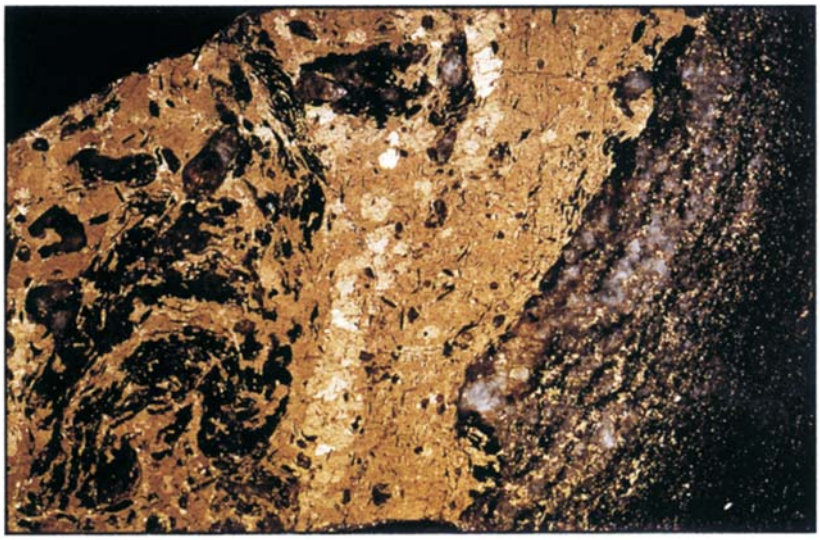

Plate 46. ***Deposit subtype 27.1,*** Nickel-copper sulphide. Typically deformed massive nickel sulphide ore, showing partially disaggregated pelitic schist inclusions, and a central layer of coarse pentlandite (lighter yellow) in a dominantly pyrrhotitic (yellow) matrix. Longest dimension of photo is 13 cm. Thompson mine, Thompson, Manitoba. GSC 1995-226

Plate 47. ***Deposit subtype 27.1,*** Nickel-copper sulphide. Matrix nickel sulphides (yellow) in serpentinized peridotitic host (black), typical of komatiitic nickel sulphide ores. The richer sulphide layer containing skeletal black crystals probably represents downward invasion of sulphide liquid that has replaced the matrix of the underlying spinifex-textured flow top. Longest dimension of photo is 11 cm. Alexo mine, Timmins, Ontario.
GSC 1995-225B

Plate 48. ***Deposit subtype 27.1,*** Nickel-copper sulphide. Massive, fine grained nickel-copper sulphide ore (pyrrhotite-pentlandite-chalcopyrite) that contains small abraded inclusions of wallrock. Longest dimension of photo is 13 cm. Falconbridge Main mine, Sudbury, Ontario. GSC 1995-225C