MARGINAL NOTES

Mineral showings recorded on this map are based entirely on the results of mapping carried out by the Alberta Research Council between 1957 and 1975. These mineral showings were described in the course of detailed geological mapping — the area has not been subjected to systematic prospecting. Additional details on individual showings are available from the Alberta Research Council.

URANIUM SHOWINGS: the uranium showings combine radioactivity discovered by instrumentation (geiger counter or scintillometer) and by observation of the secondary (oxidised) uranium mineral stains. Most sites combine both types of observation. Radioactive anomalies are generally defined as greater than 2 x background. Uranium mineralization is typically associated with either: a) high-grade metasedimentary rocks; or b) granitoids. In the latter case, three regions of unusual concentrations of showings are evident: Cherry-Spider Lakes, Colin Lake, and Fidler Point.

At Colin Lake there are several occurrences (15 sites) of alteration that appear to represent the seat of a saprolite horizon, similar to the one beneath the Athabasca Group to the south. The upper section of the saprolite has been glacially eroded, and its root zones remain in protected fault and fracture-related depressions.

GRAPHITE SHOWINGS: most graphite occurrences are found in the high-grade metasedimentary rocks mostly associated with the granite gneiss belt. Graphite is found in close association with the biotite schistose phase of the typically siliceous metasediments.

ALLANITE SHOWINGS: allanite (a complex radioactive rare earth mineral) is found only as isolated grains scattered exclusively within the granite gneiss host rock.

TOURMALINE-QUARTZ VEINS: composite tourmaline-quartz veins are concentrated in one region centred on Waugh Lake, near the Saskatchewan border. These veins are confined to the greenschist facies metasedimentary and metavolcanic rocks of the Waugh Lake Group.

SULFIDE MINERAL SHOWINGS: a variety of sulfide minerals occur in visible amounts in the Shield of northeastern Alberta. Only showings with sulfides additional to or other than pyrite are recorded on the map. The majority of showings are within the high-grade metasedimentary rocks, commonly associated with a gossan or rusty zone. Molybdenite is the most abundant sulfide plotted, with the remainder in descending order of frequency — arsenopyrite, chalcopyrite and pyrrhotite.

BUILDING STONE: many of the distinctive granitoid rocks of the Alberta Shield would be suited as ornamental-building stones. Four sites in the Chipewyan Red Granite have been examined in detail, whereas other sites have been recorded in the course of systematic mapping and have received no further examination.

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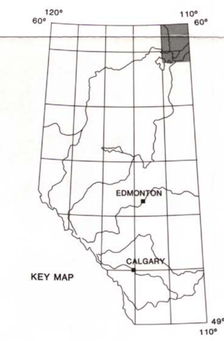
LEGEND

- Uranium site (yellow stain and/or radioactivity)
- Allanite site
- Building stone site
- Rock alteration site (could be saprolite related)
- Tourmaline-quartz veins site
- Graphite
- Sulfide site
  - Pyrrhotite
  - Chalcopyrite/Malachite
  - Arsenopyrite
  - Molybdenite
  - Gossan
- Drainage
- Township boundary
- National Park boundary
- Road



Scale 1:250,000

0 5 10 15 20 25 kilometres
0 5 10 15 miles

Mineral showings of the Precambrian Shield in northeastern Alberta

NTS 74M and 74L N½

Compilation by John D. Godfrey

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