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SUMMARY

Carmi Molybdenum Deposit, Southern British Columbia

by

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The Carmi Molybdenum Deposit, 54 km southeast of Kelowna and 8 km northwest of Beaverdell, occurs within an apparent north-south belt of Tertiary (ie. 50 million years) Valhalla granitic stocks and dykes and acid to basic volcanic extrusives superimposed on Jura-Cretaceous Nelson plutonic rocks of regional extent.

Within the vicinity of the deposit, Nelson rocks have been structurally disturbed, altered and intruded by a series of structurally controlled Valhalla rocks and associated molybdenite-bearing breccia and greisen systems, and by post mineral dyke swarms.

Structural control of the Carmi deposit and its related intrusive elements is manifest by a rhomb-shaped fault pattern resulting from the intersection of a regional major east-west trending fault and a northeast trending multiple fault system.

Molybdenite occurs disseminated in a series of shallow breccia zones (Stage I Molybdenite) in Nelson country rocks, and in local greisen zones (Stage II Molybdenite) in an extensive underlying partially unroofed stock of Valhalla leucocratic quartz monzonite. These zones are spatially and genetically associated respectively with a series of locally occurring Valhalla quartz monzonite and granodiorite sills, masses and dykes and with the underlying stock.

Stage I Molybdenite bearing breccias occur in two zones (ie. E and Lake Zones). The E Zone is characterized by a series of flat lying to gently dipping tabular breccia bodies aligned along a northwest - southeast trend over a length of at least 6000 feet and a width of up to 1600 feet. The Lake Zone is a separate steeply north dipping breccia zone located west of the E Zone. It is 2150 feet long, up to 500 feet wide, and extends to depths of up to at least 1300 feet. Breccias are characterized by angular Nelson fragments in a matrix comprised of intergradational bull quartz, aplite-pegmatite, quartz monzonite and granodiorite pseudo-breccia (ie. characterized by exsolved quartz-biotite-pyrite-molybdenite clots). Widespread secondary sericite ± biotite with associated pyrite (1 to 10%), molybdenite, fluorite, magnetite and amethyst occur throughout the breccias. Fracture controlled K-Feldspar, epidote and chlorite alteration with minor pyrite occurs peripheral to breccias and centred within the structurally disturbed region. Quartz-sericite-pyrite greisen veins and zones and aplite-pegmatite dykes occur widespread in the vicinity of breccia zones, but are concentrated in certain proximal zones at depth. Breccias are locally cut by apophyses of the underlying stock and both the Lake and E Zones appear locally truncated by the stock.

Stage II greisen-type fracture controlled molybdenite-pyrite zones have been encountered in the upper 400 feet of the underlying stock, particularly beneath mineralized breccias in the E Zone area. The host stock is alaskitic. It is characterized by quartz eyes set in a granular fine to medium grained matrix, and by widespread microfracturing, sericite alteration and by minor disseminated pyrite, magnetite, fluorite, amethyst and molybdenite.

Of eleven elements (Mo, Cu, Ag, Pb, Zn, U, W, Co, Mn, Fe, Ni) analyzed from soil samples collected from the B horizon on a grid basis, only molybdenum occurs in consistently anomalous amounts. Molybdenum anomalies (≥ 10 ppm Mo) correlate spatially with all known molybdenite zones and indicate limited southerly directed glacial smearing (ie. Lake Zone). Small drainages to the northeast and south of the E Zone carry anomalous molybdenum and sporadic anomalous zinc and uranium values in silts and waters.

Shallow penetrating frequency domain induced polarization surveys have identified numerous weak anomalous (PFEZ 2.8%) zones. The stronger anomalies reflect known molybdenite zones and the pyrite zone extending south from the E Zone. Weaker anomalies reflect sheared and fractured zones (ie. structural discontinuities) and widespread weak pyritization (ie. northwest of Lake Zone).

Magnetometer surveying has identified magnetic lows that reflect the leucocratic quartz monzonite stock and zones of structural discontinuity.

A deposit model is presented that is clearly atypical of porphyry or breccia molybdenum environments. The model involves a system of explosive vapor venting of the stock with breccia formation in structurally controlled sites in cap rocks; simultaneous emplacement of magmatic and magmatic-pneumatolytic phases with molybdenite and associated mineral phases into breccia voids and emplacement of magmatic phases into flat lying vapor release dilation zones. These phases were derived from the underlying stock. Subsequent development of fracture controlled pneumatolytic greisen and molybdenite mineralization occurred in root differentiate zones in the underlying stock.

Extensive percussion and diamond drilling to date have indicated a possible open pit reserve of 20 to 30 million tons grading 0.10% MoS₂ at a cutoff grade of .05% MoS₂.

Attachments: Figures 1 to 17

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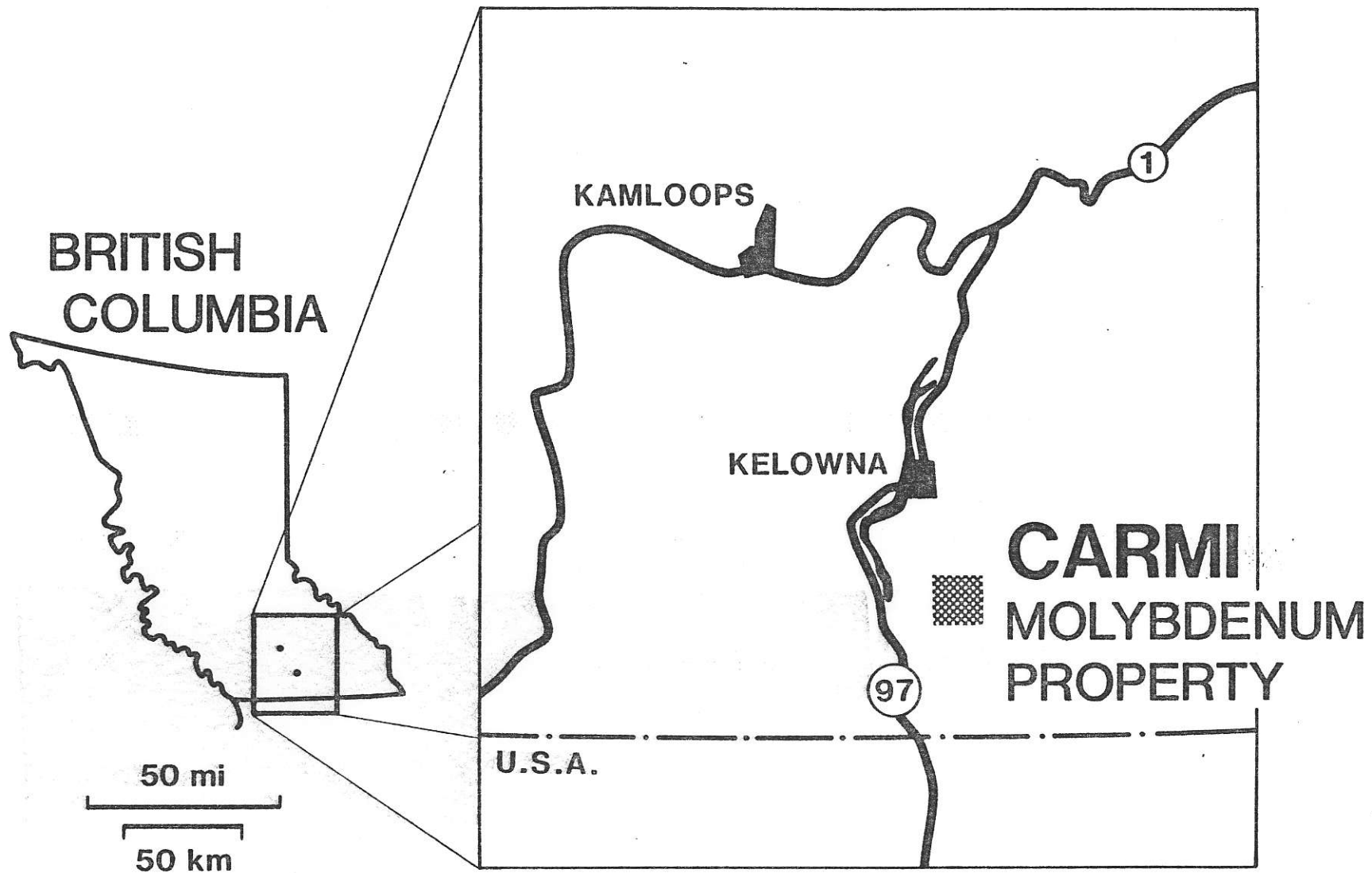




FIGURE 1

GEOLOGICAL LEGEND

NIPPLE MOUNTAIN SERIES

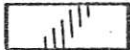
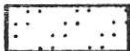
-  DACITE DYKES
-  FELSIC -- MAFIC FLOWS AND FRAGMENTALS

VALHALLA INTRUSIONS




— PHASE III —

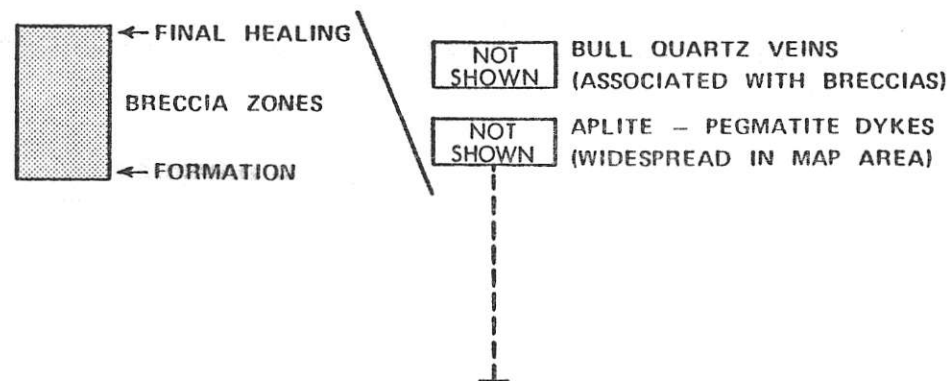
-  FELDSPAR PORPHYRY DYKES

— PHASE II —

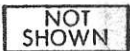
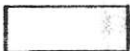
-  QUARTZ PORPHYRY DYKES
-  LEUCOCRATIC QUARTZ MONZONITE (ALASKITE) STOCK

— PHASE I —

-  BIOTITE QUARTZ MONZONITE
-  SPECKLED GRANODIORITE DYKES
-  SPECKLED BIOTITE GRANODIORITE PSEUDOBBRECCIA



NELSON INTRUSIONS

-  MASSIVE GRANODIORITE - DIORITE (KING SOLOMON MTN. AND KETTLE RIVER VALLEY)
-  FOLIATED GRANODIORITE - DIORITE

ANARCHIST GROUP


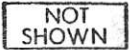
-  METASEDIMENTS
 -  METAVOLCANICS
- } LOCAL ROOF PENDANTS TO SOUTH OF MAP AREA

FIGURE 2

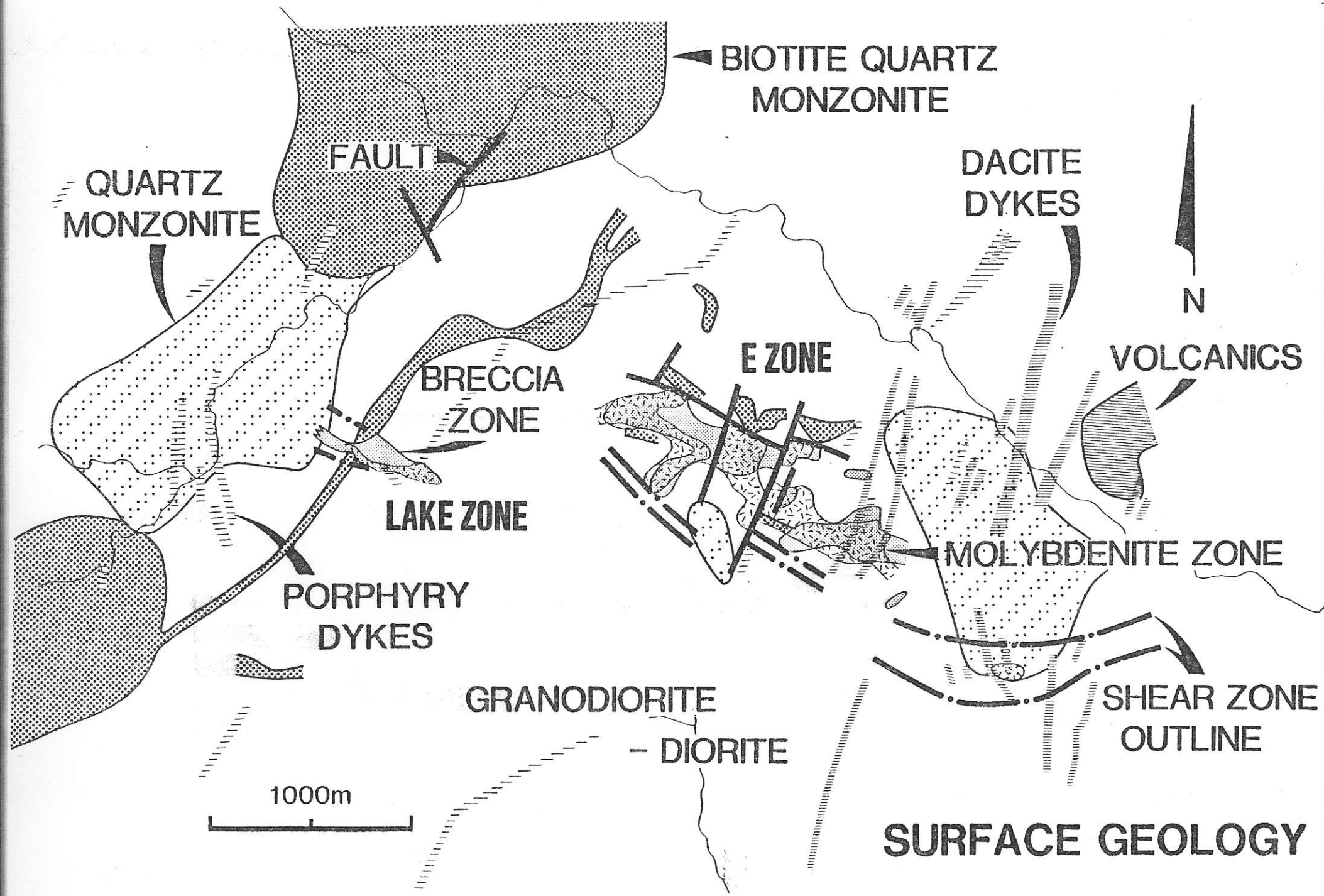
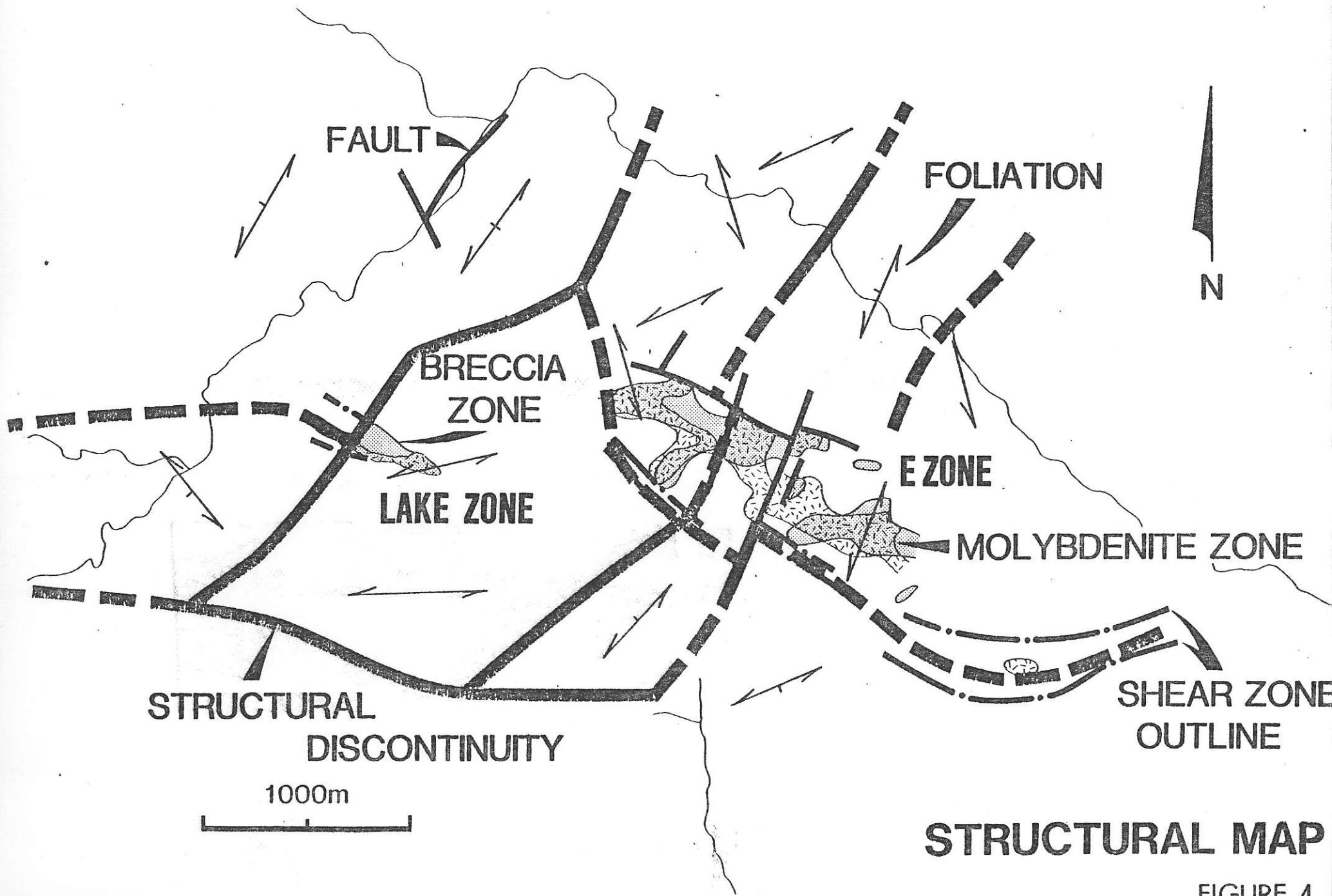


FIGURE 3



STRUCTURAL MAP

FIGURE 4

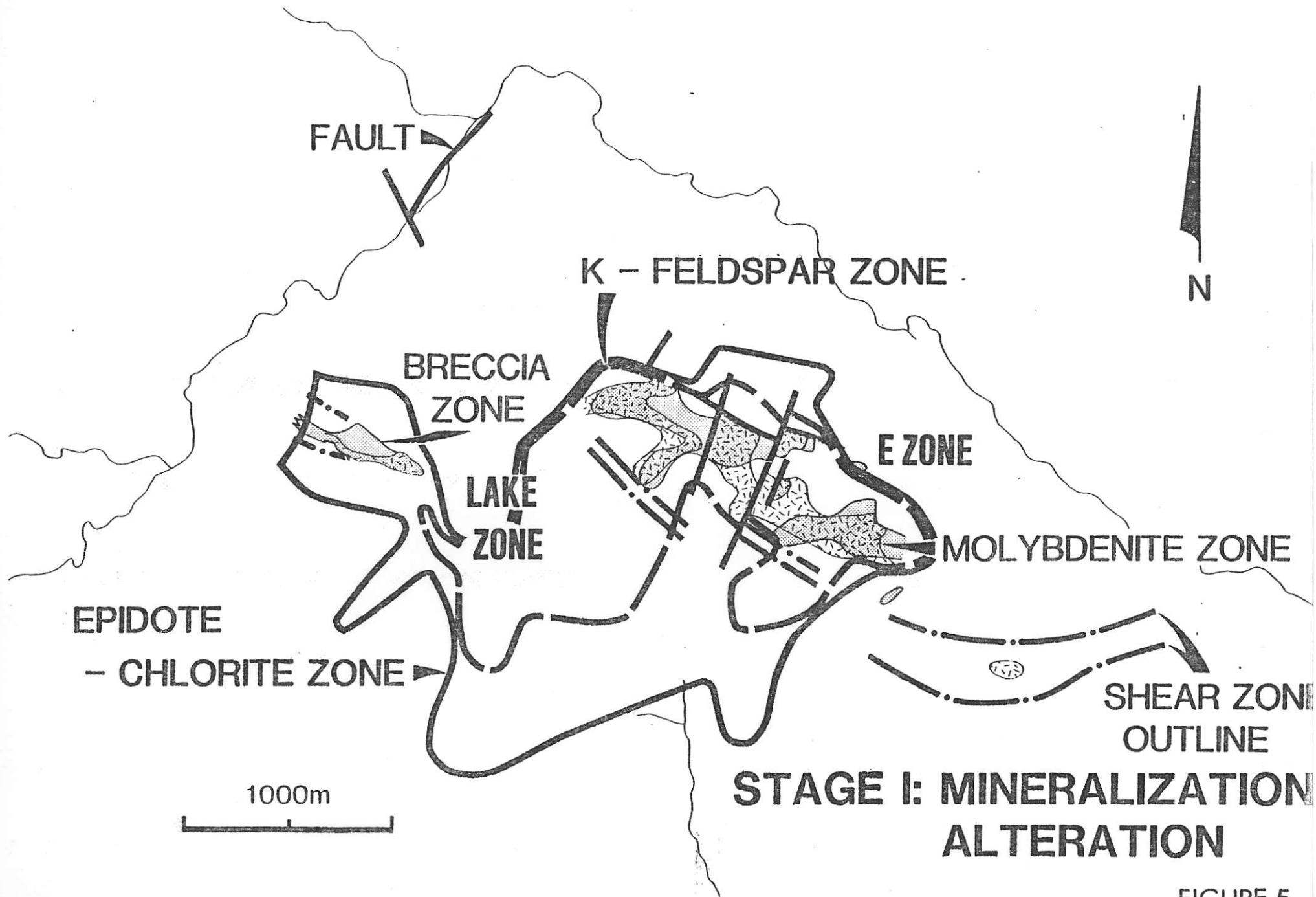


FIGURE 5

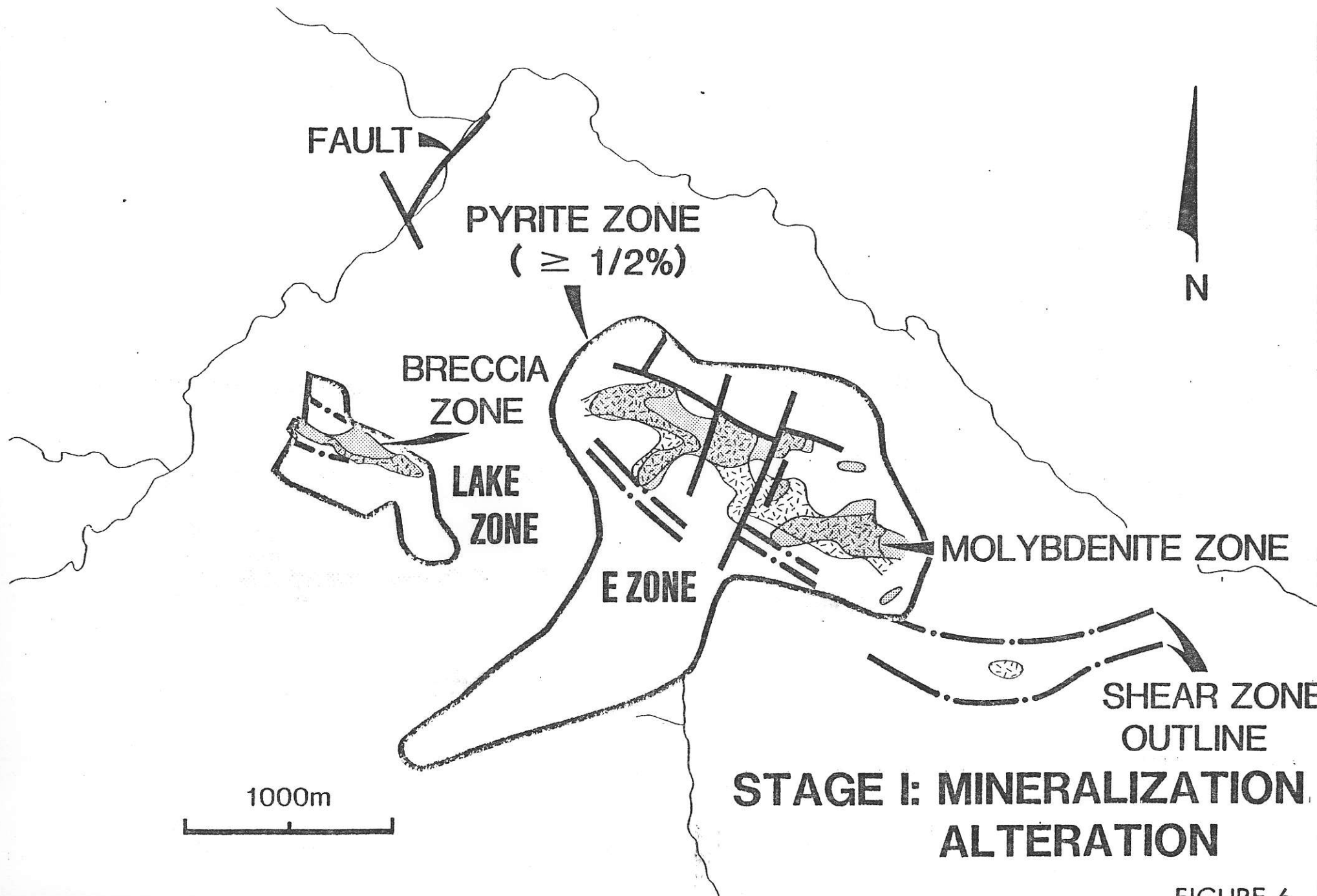


FIGURE 6

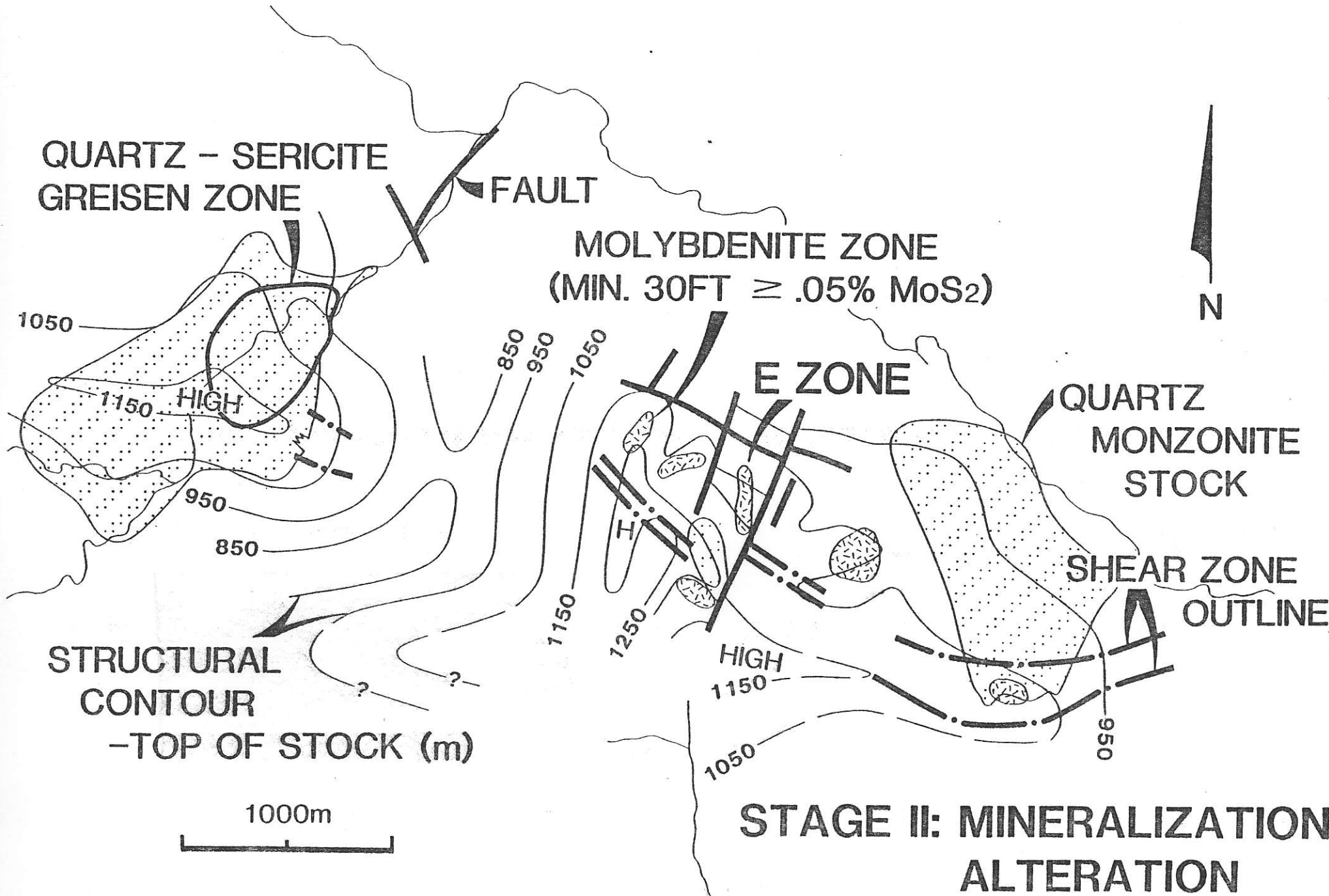


FIGURE 7

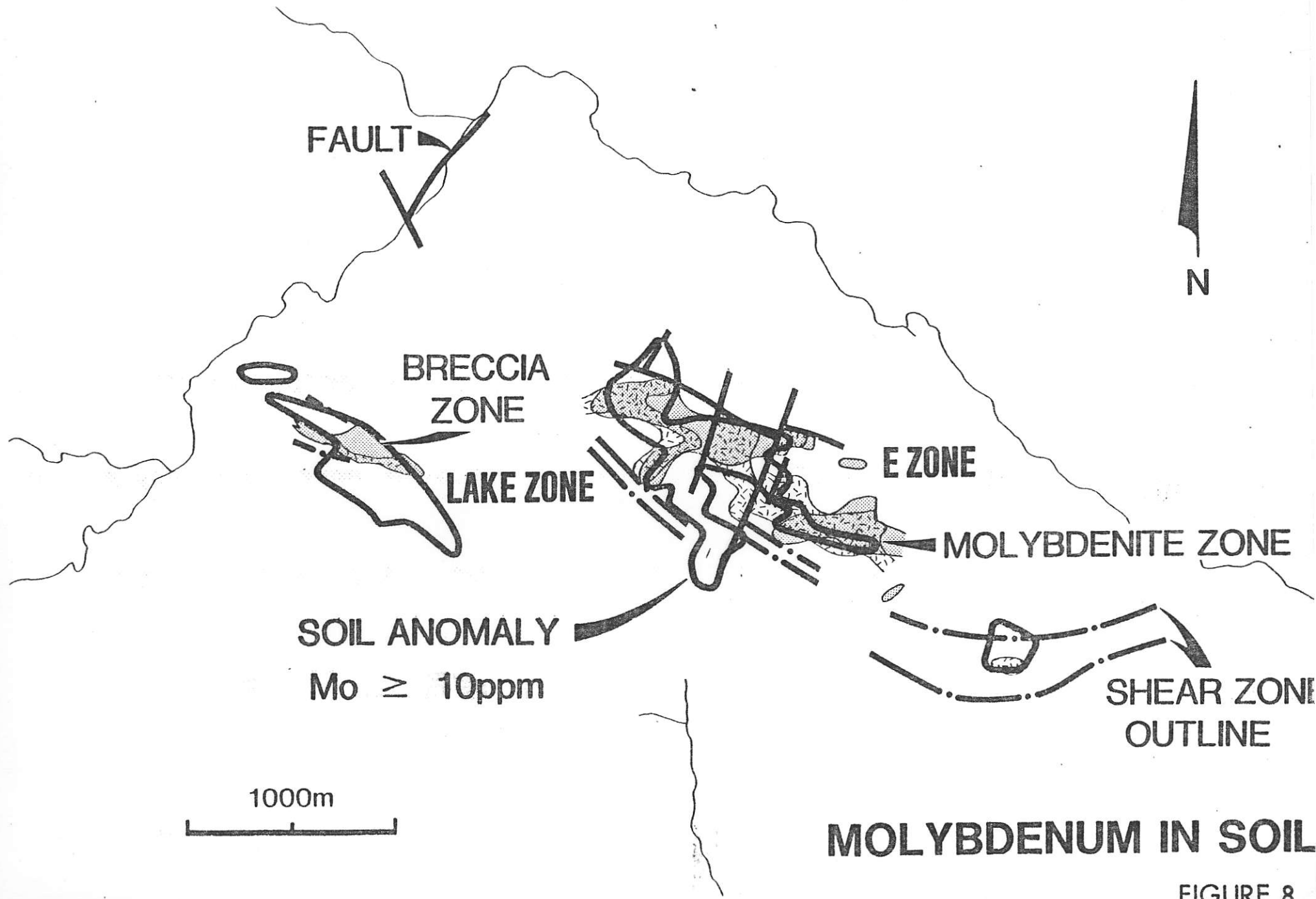


FIGURE 8

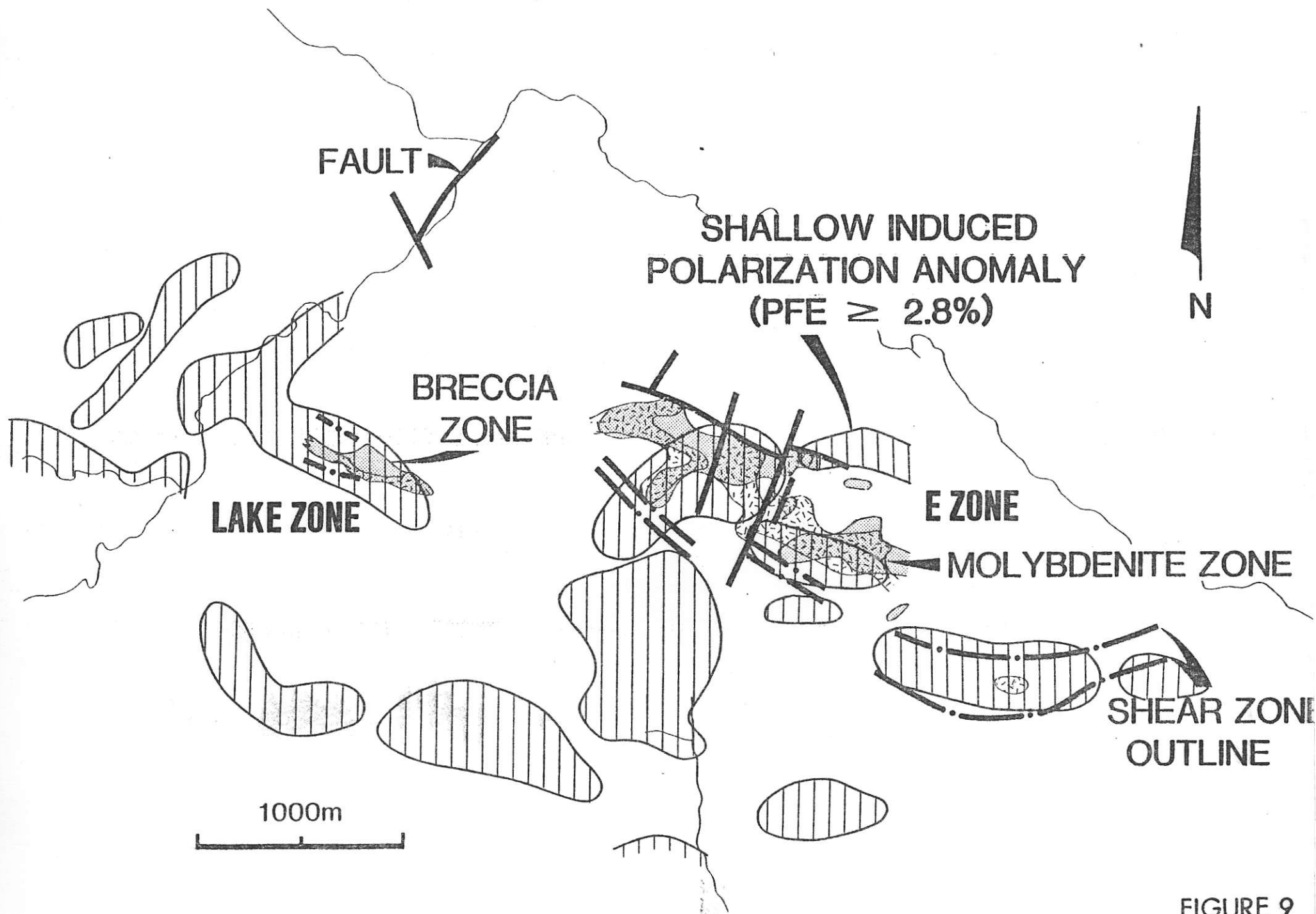
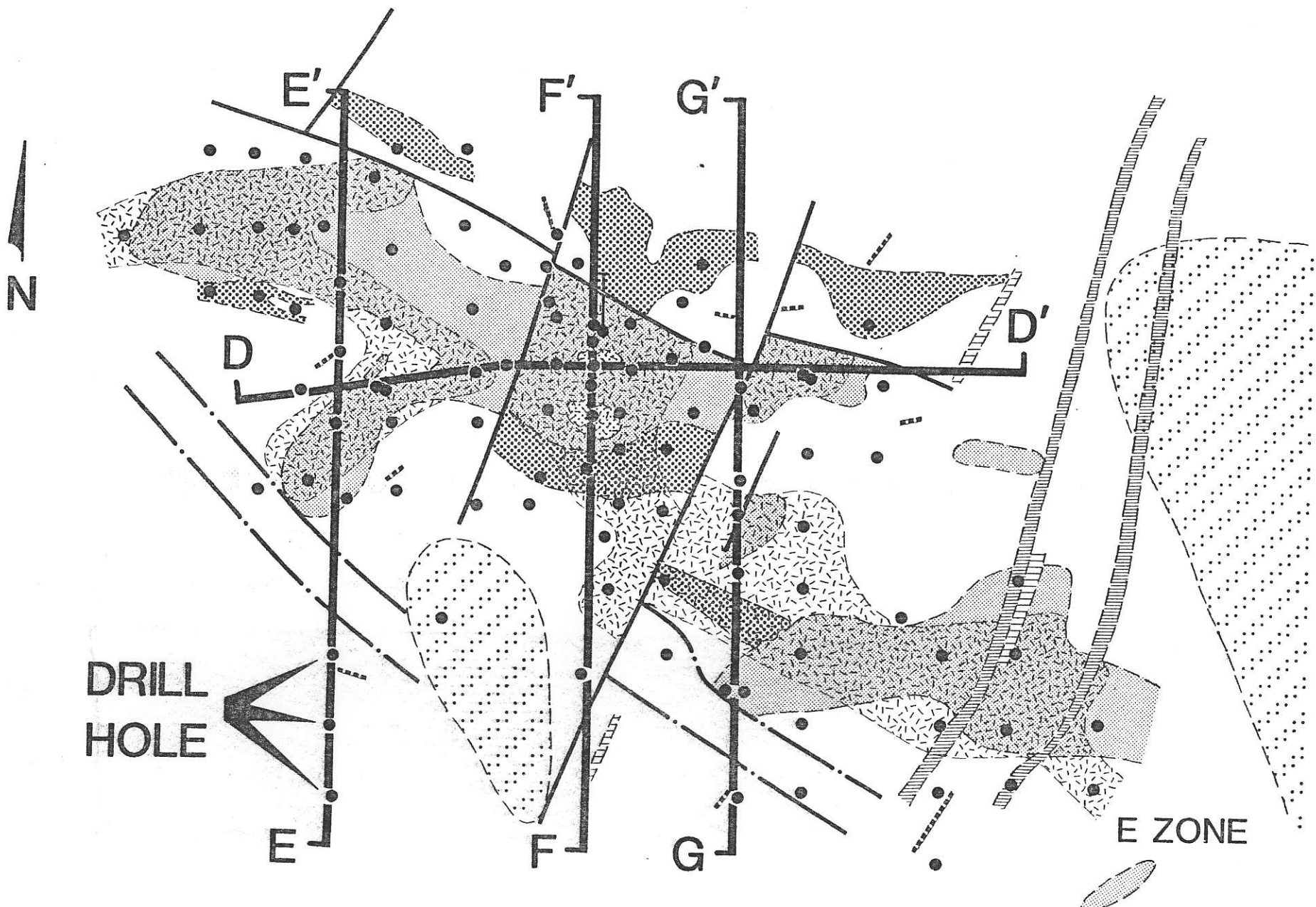


FIGURE 9



SURFACE GEOLOGY

FIGURE 10

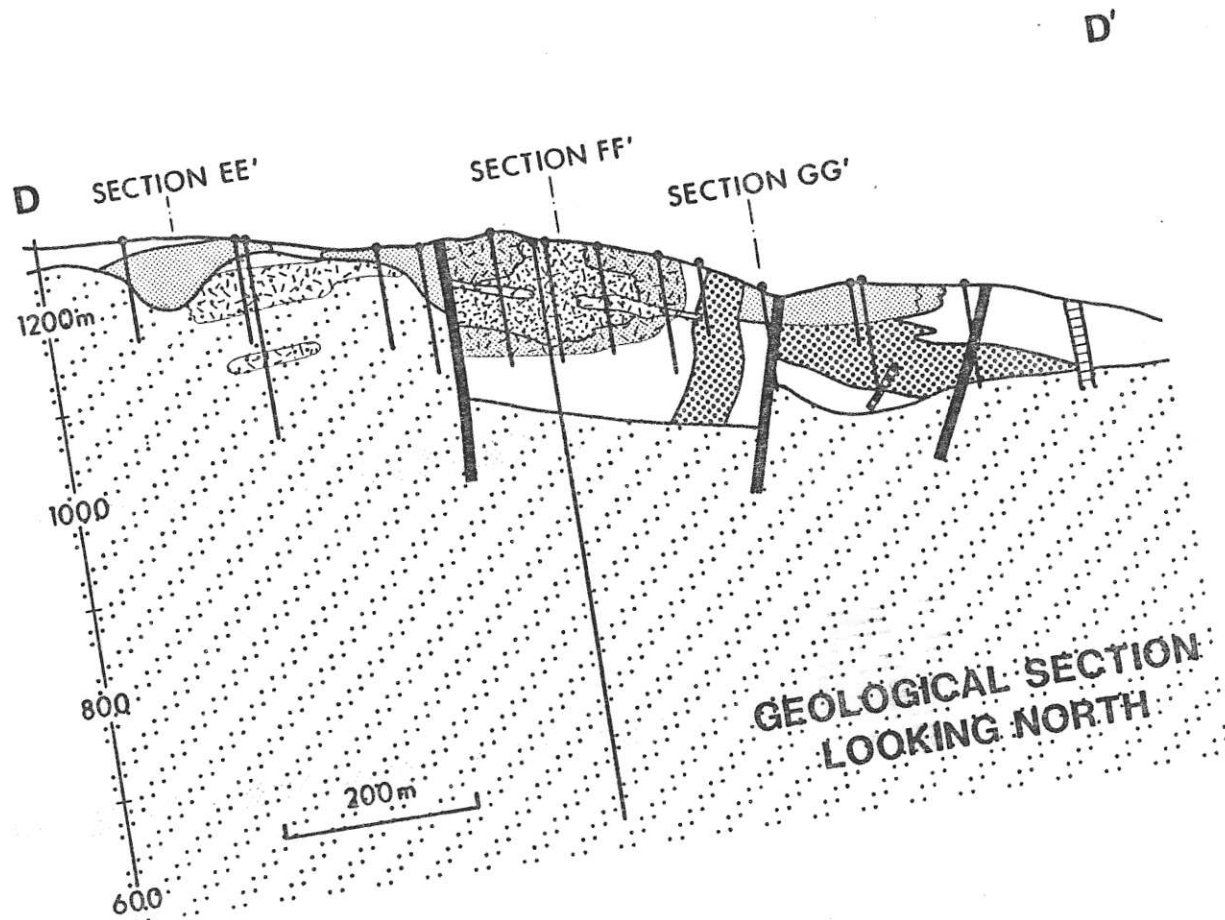


FIGURE 11

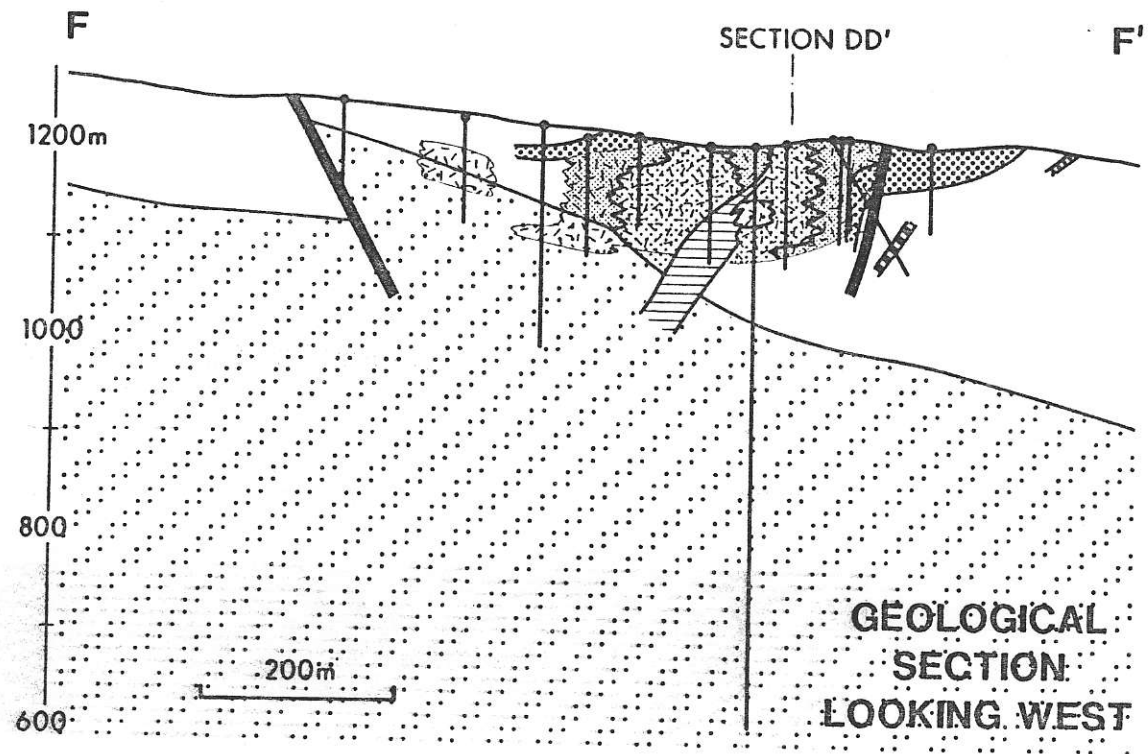


FIGURE 12

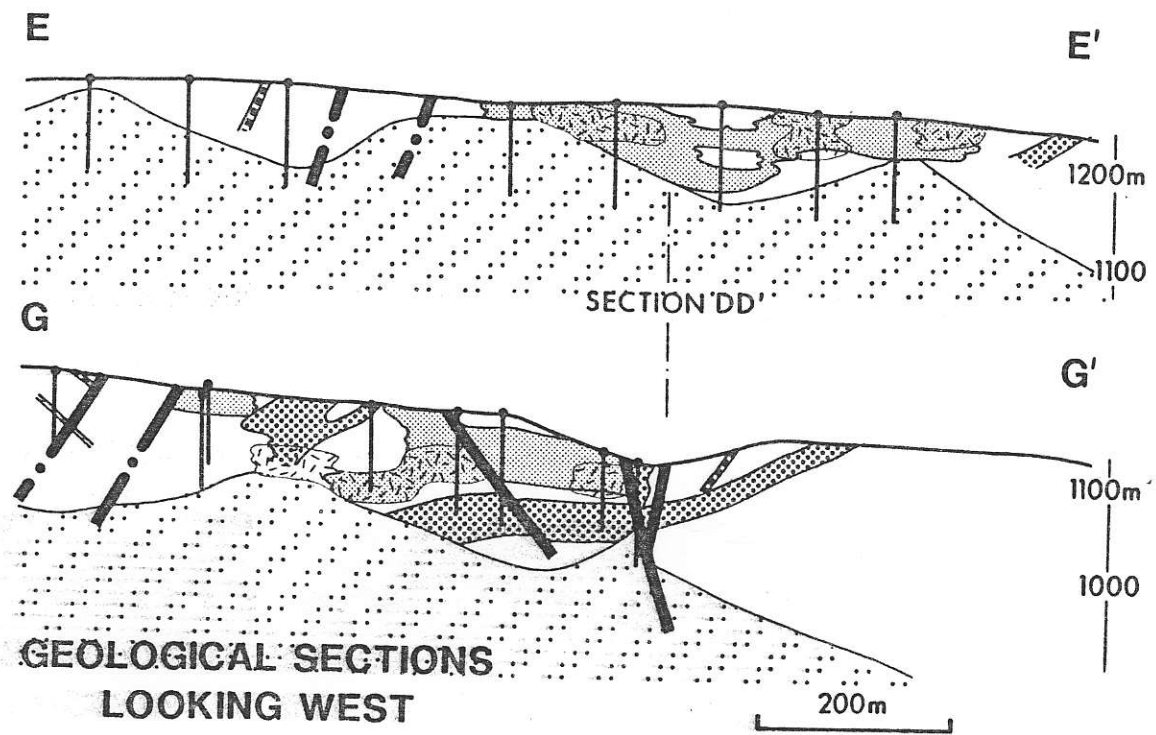
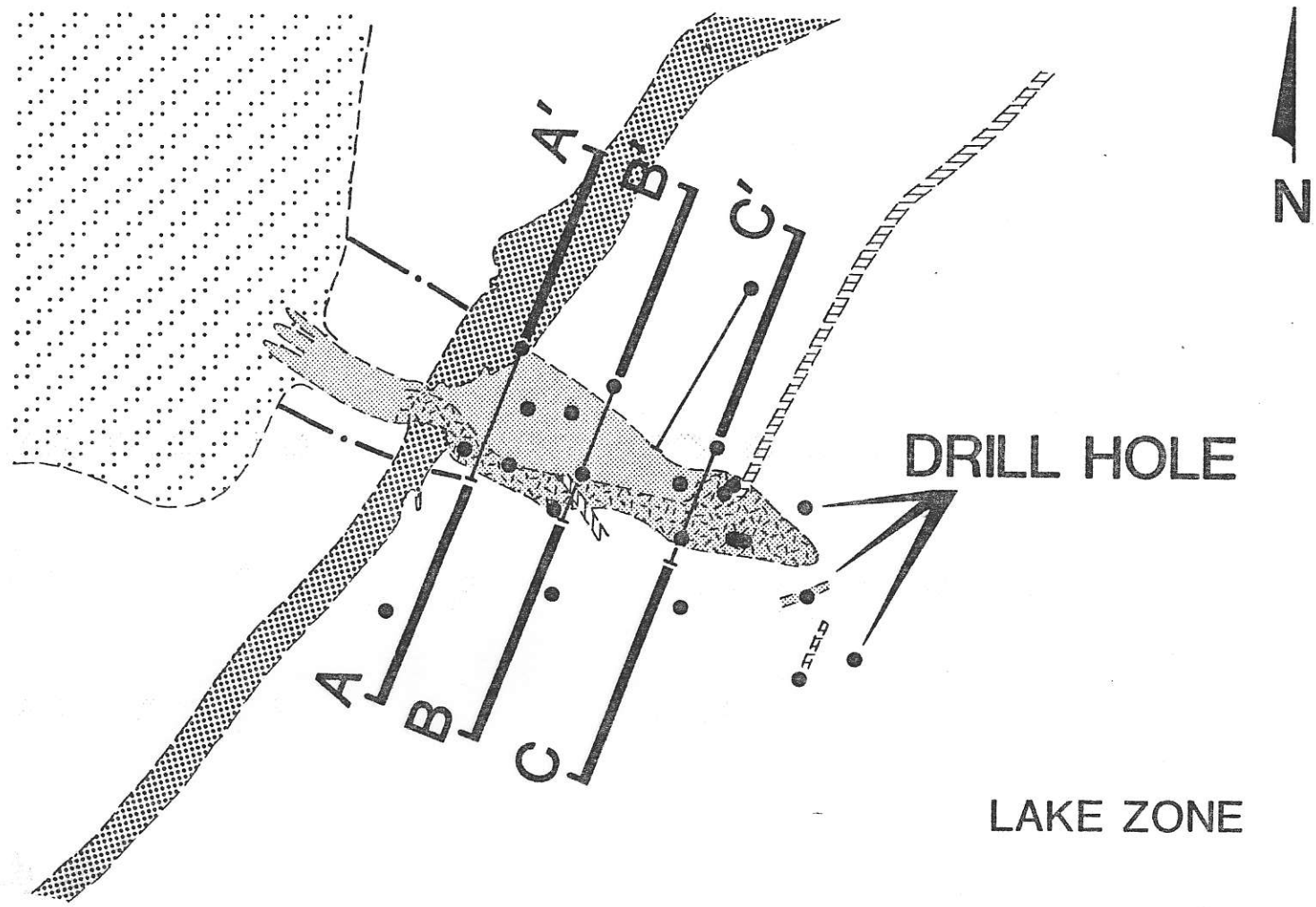
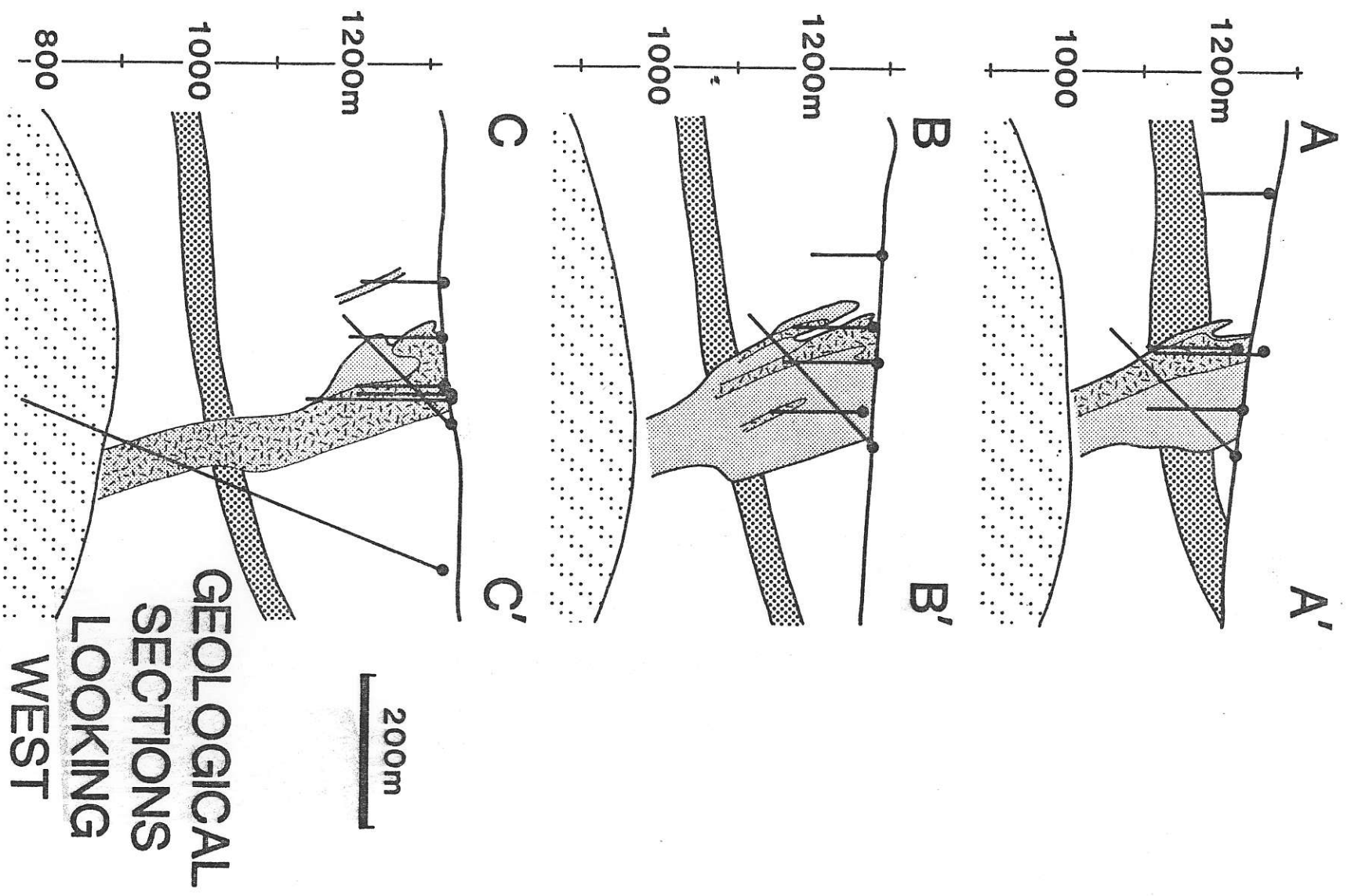


FIGURE 13



SURFACE GEOLOGY

FIGURE 14



**GEOLOGICAL
SECTIONS
LOOKING
WEST**

FIGURE 15

VALHALLA SEQUENCE OF EVENTS

FELDSPAR PORPHYRY DYKES - PHASE III

LEUCOCRATIC QUARTZ MONZONITE STOCK - PHASE II

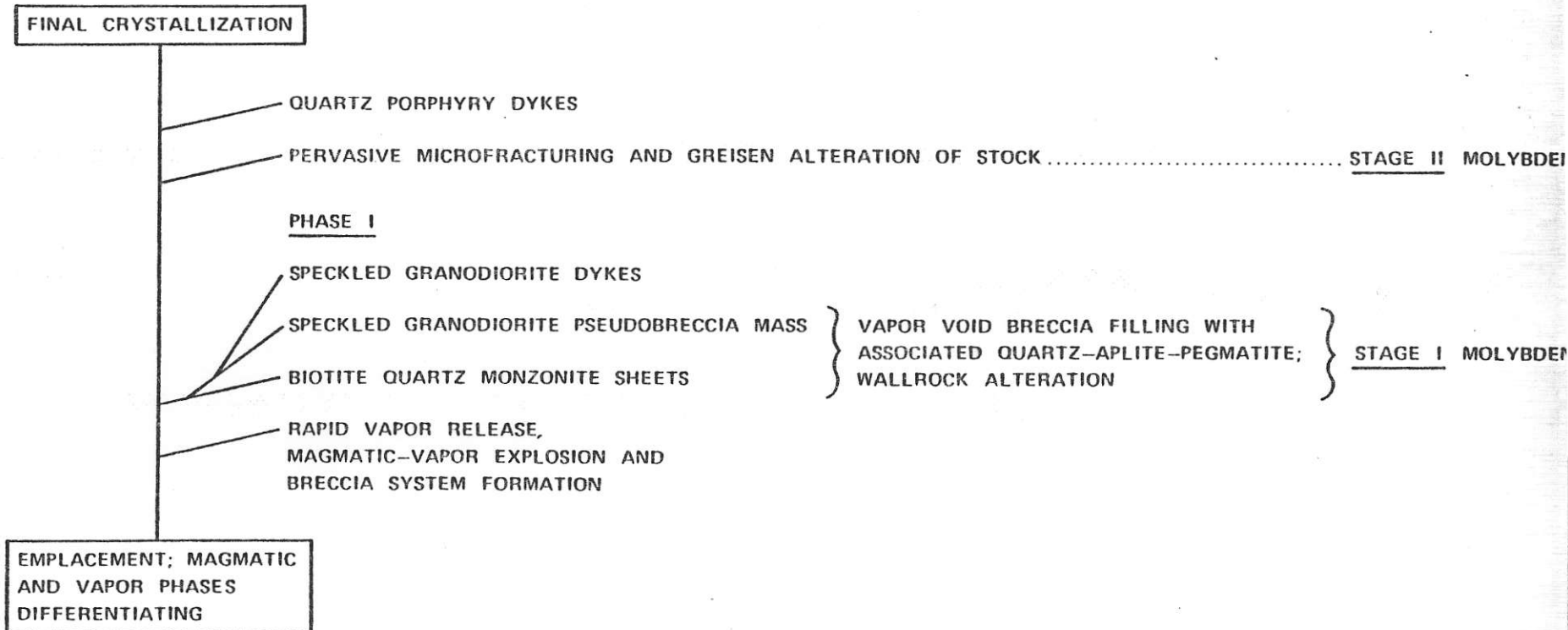


FIGURE 16

BRECCIA AND QUARTZ - APLITE - PEGMATITE
(MAGMATIC - PNEUMATOLYTIC) FRONT

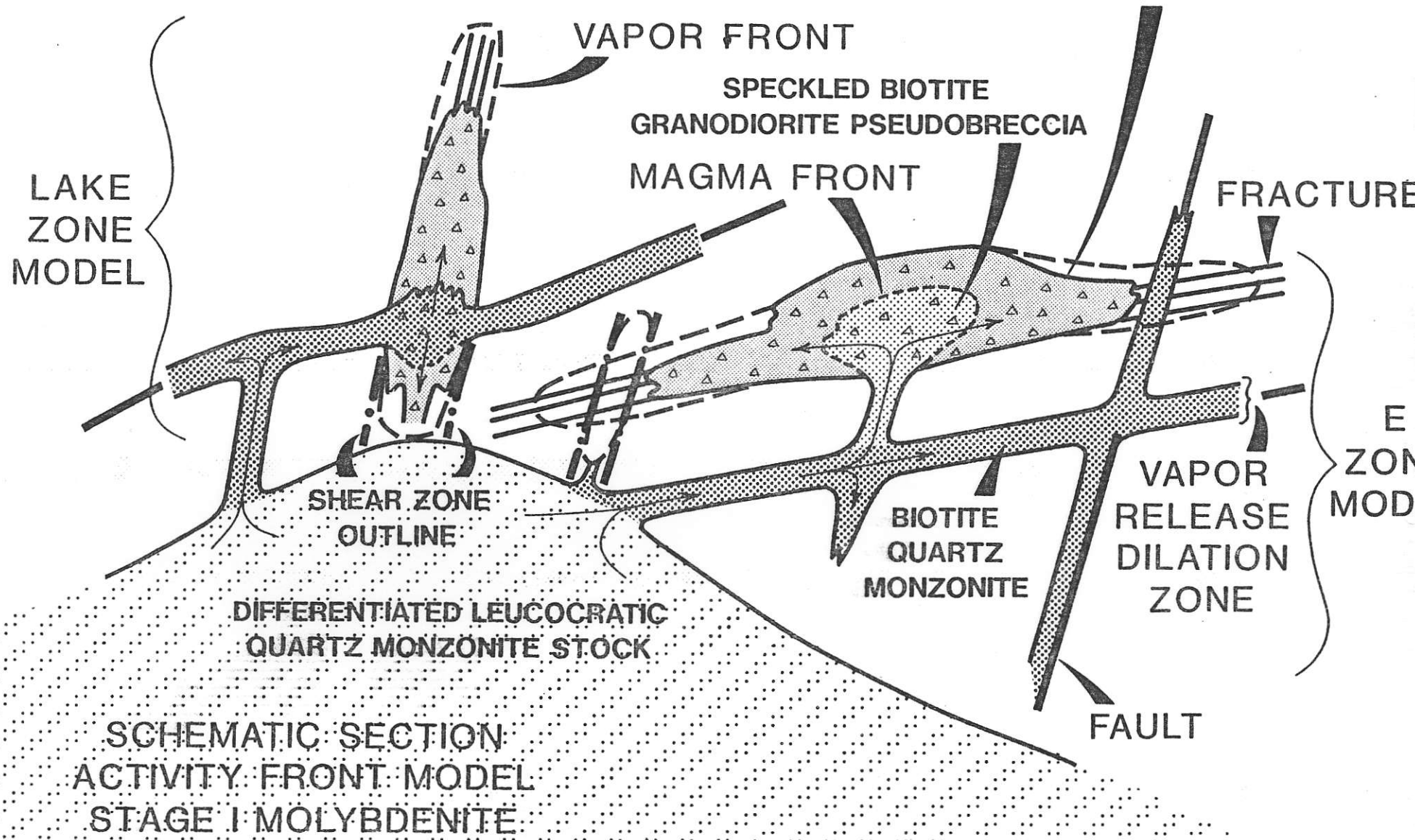


FIGURE 17