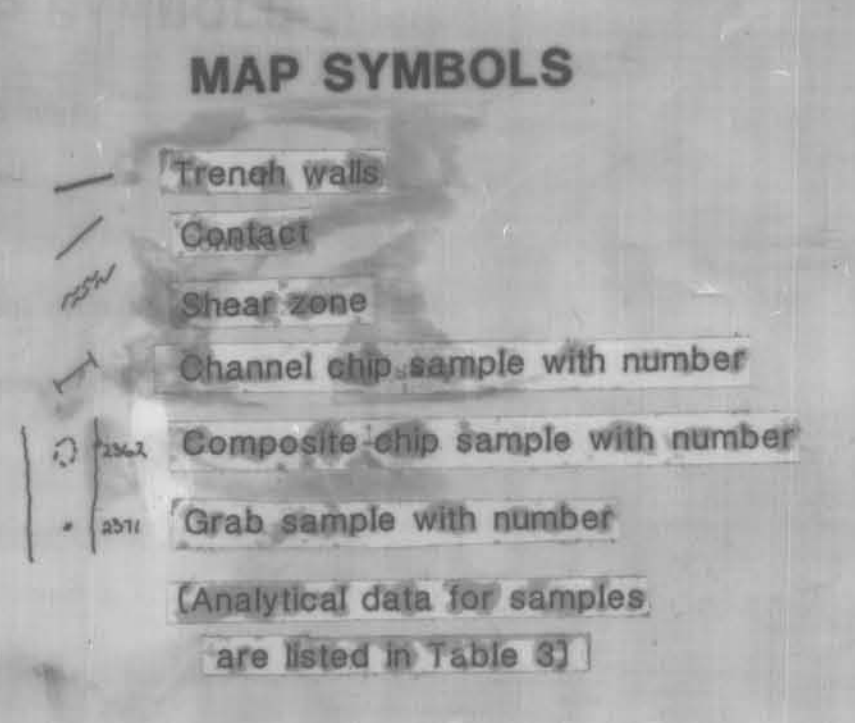
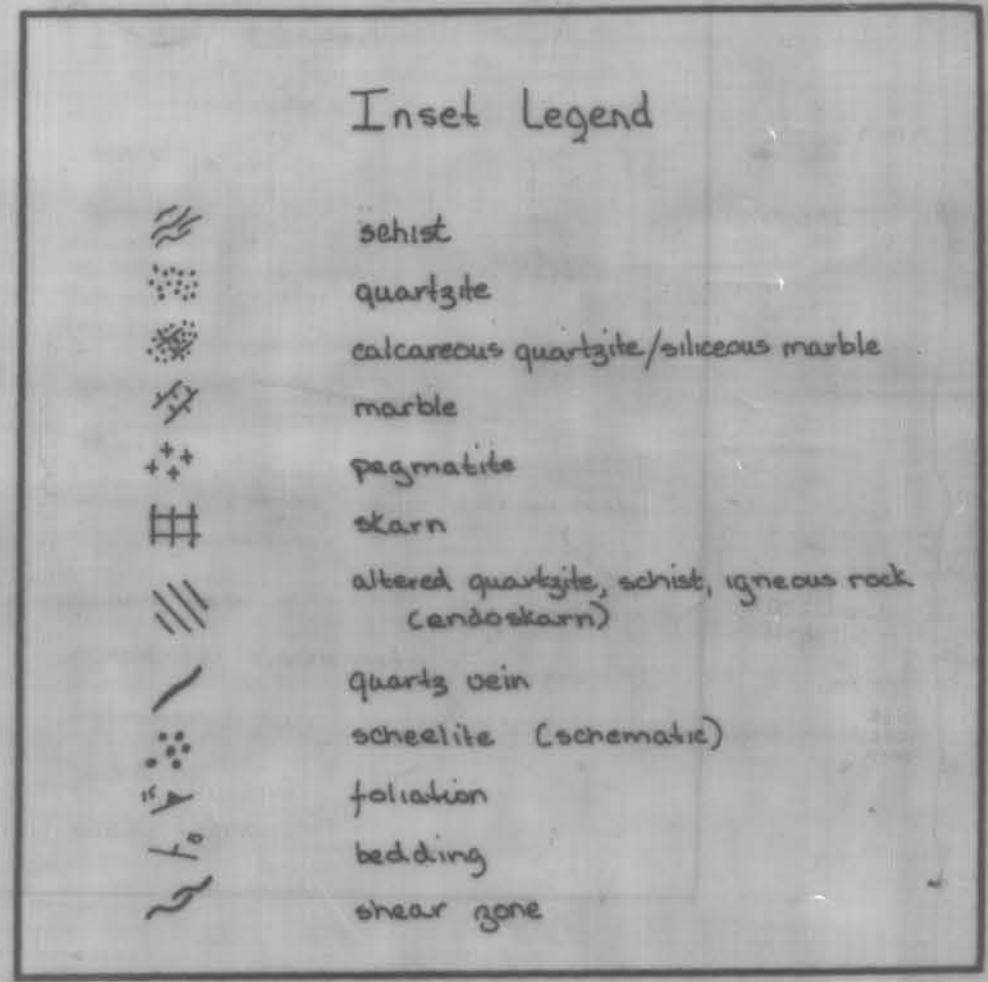
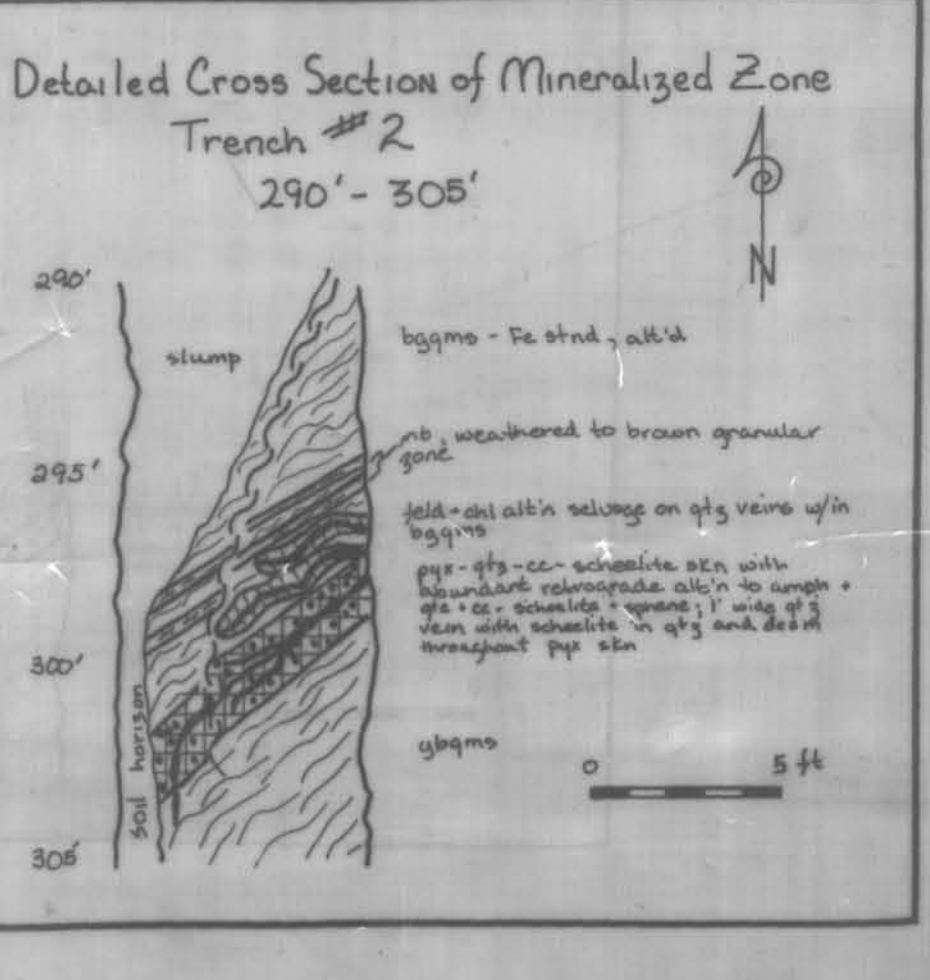
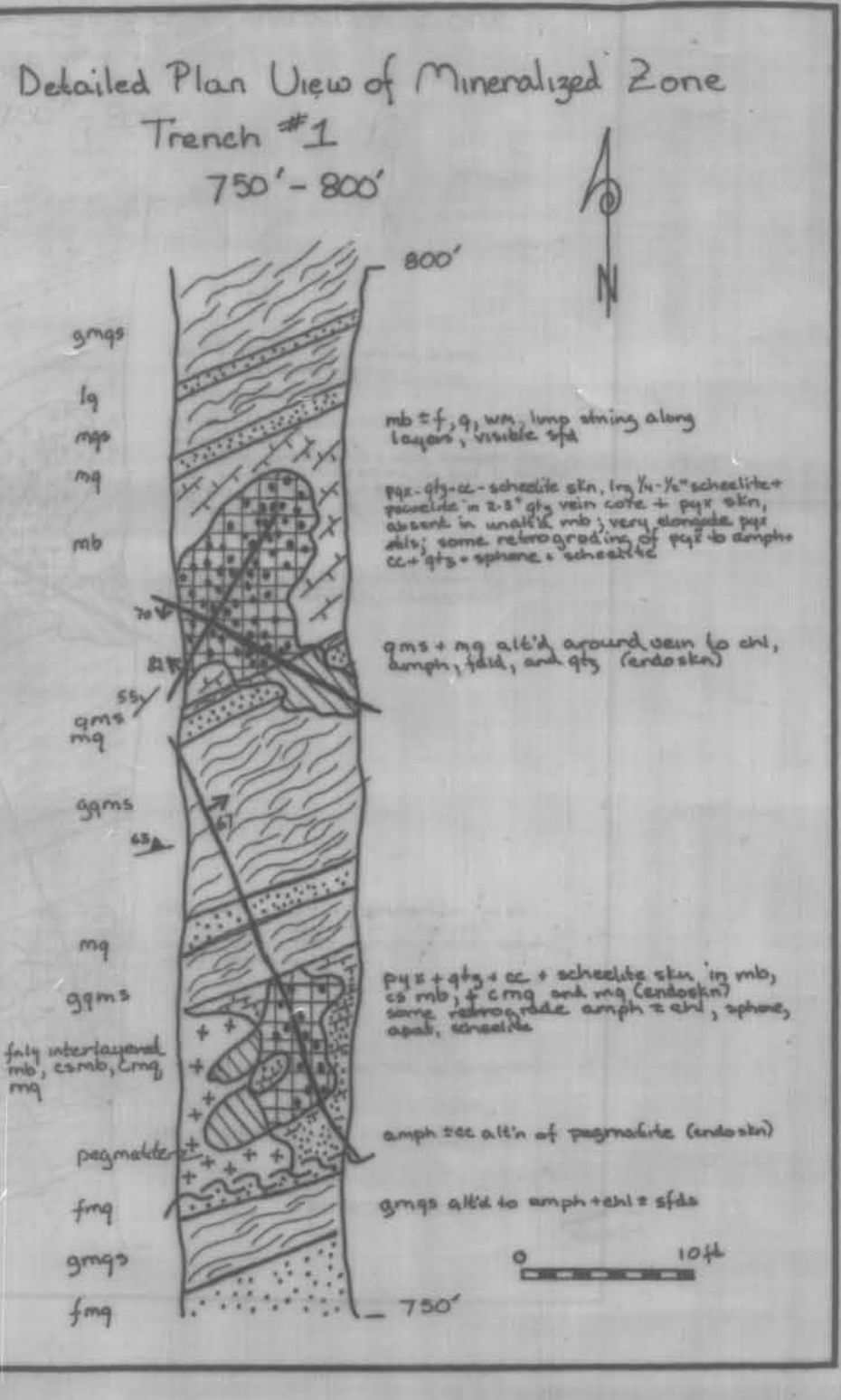
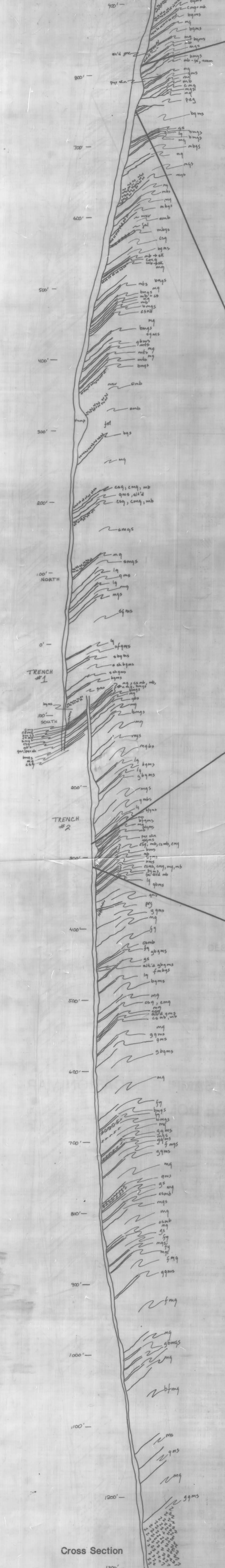


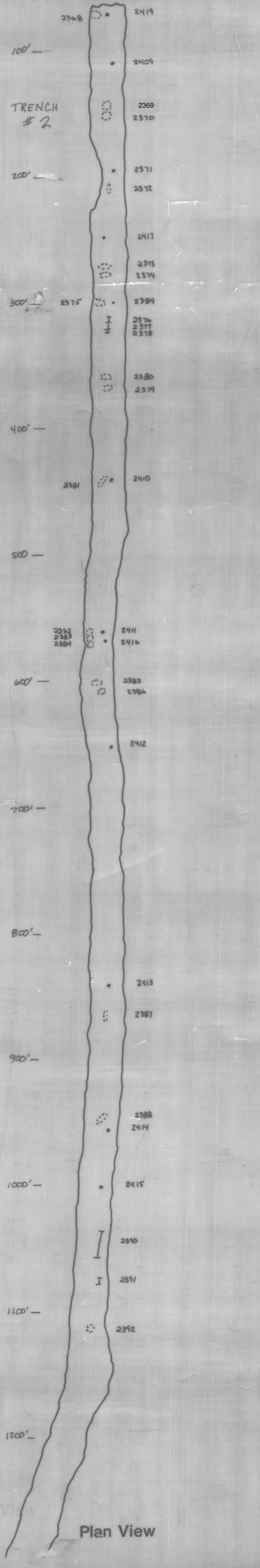
**GEOLOGIC CROSS SECTION OF GIL TRENCHES**

**PLAN OF GIL TRENCHES**  
showing sample sites and numbers  
(see table 3 for analytical data)



**DESCRIPTION OF GEOLOGIC UNITS**

- mq MUSCOVITE QUARTZ SCHIST - Light-brown to buff, medium- to coarse-grained, muscovite quartz schist with variable amounts of biotite, feldspar, garnet, and chlorite. Modifiers designate significant presence of these minerals: bqms, fqms, gqms, etc. Recognized by presence of grey or brown muscovite and grey quartz.
- qms QUARTZ MUSCOVITE SCHIST - Light-brown to grey, medium- to coarse-grained quartz muscovite schist with variable amounts of biotite, feldspar, garnet, and chlorite. Modifiers designate significant presence of these minerals: bqms, fqms, gqms, etc.
- sqms SILVER QUARTZ MUSCOVITE SCHIST - Silver grey, coarse-grained quartz muscovite schist. Has a characteristic silver sheen and locally knobby or rosey texture. Biotite, feldspar, and chlorite may be present (sbqms, sfqms, schqms).
- ms MUSCOVITE SCHIST - Medium to light-grey, medium- to coarse-grained muscovite schist with variable amounts of biotite. With significant biotite and/or quartz present become biotite muscovite schist (bms) or quartz biotite muscovite schist (qbms).
- mtb MAGNETITE SCHIST - Medium-brown to grey, medium- to coarse-grained biotite quartz muscovite schist with small magnetite crystals. Strongly magnetic. Found in northern section of Gil trenches.
- gs GRAPHITE SCHIST - Dark-grey to black, fine- to medium-grained quartz graphite schist.
- mq MICACEOUS QUARTZITE - Light-brown to buff, fine- to medium-grained, thin-bedded to massive, with variable feldspar, biotite, chlorite, white mica, and minor calcite and garnet. Calcareous feldspathic quartzite thinly interlayered with and gradational into marble units may contain secondary pyroxene, garnet, amphibole, clinzoisite, white mica, chlorite, and schellite (endokarn).
- lq LAMINATED QUARTZITE - Light-buff to white, very fine-grained, thin-bedded, finely laminated quartzite with variable feldspar, white mica, biotite, and calcite. May show distinct iron and manganese staining along fractures and, locally, layering.
- amb METABASITE - Medium-grey-green to dark green, medium- to coarse-grained, foliated to massive, metamorphosed mafic units of volcanogenic to hypabyssal origin. Composed of amphibole with lesser and highly variable amounts of plagioclase, chlorite, biotite, and ilmenite. May be altered to amphibole, calcite, sphene, and quartz and lose metamorphic foliation.
- fd FELSIC DIKE - Light-tan to white, fine- to medium-grained, thin igneous dikes composed of quartz and feldspar. Locally, minor pink garnet or sulfides may be present. In mineralized zones, dikes may be altered to white mica, chlorite, calcite, amphibole, sphene, and schellite (endokarn).
- peg PEGMATITE - Light-tan, coarse-grained, igneous bodies composed of quartz, feldspar, and locally pink garnet. Alteration to amphibole, calcite, chlorite, and sphene present.
- mb MARBLE - Light-grey to green grey, medium- to coarse-grained, very thin bedded to massive marble. Locally, thinly interlayered with micaceous quartzite, calcareous quartzite, schist and slightly calcareous schist. Impure marble may contain variable amounts of fine-grained anhedral feldspar, quartz, diopside pyroxene, grossularitic garnet, idocrase, tremolite-actinolite, clinzoisite, and iron oxides interstitial to the calcite mosaic and as original sedimentary layers. Grain size of calcite and impurities increase close to the intrusive contact. Marble is host for tungsten skarns near Gilmore Dome. Weathers to brown granular layers.
- csmb CALC-SILICATE MARBLE - Light-orange to green, fine- to medium-grained, thinly bedded, compositionally banded, dominantly calc-silicate rock. Originally was very argillaceous and/or dolomitic limestone. Composed of grossularitic garnet, diopside pyroxene, plagioclase, clinzoisite, amphibole, quartz, and calcite. Calc-silicates formed during metamorphism, however some recrystallization with metasomatism is often present. Distinguishable from skarn by, in general, finer grain size, lighter color, compositional layering, lower iron content, and lack of schellite.
- sk SKARN - Medium- to dark-green and reddish brown, mottled, medium- to coarse-grained, veined, dense, hydrothermally altered marble. Composed of pyroxene, garnet, idocrase, quartz, calcite, wollastonite, actinolite, clinzoisite-epidote, and schellite, with accessory sphene, apatite, chlorite, and iron oxide. Locally fluorite may be present. Skarn may totally replace a marble unit or form as veins within marble. Localization of skarn controlled by structural features such as lithologic contacts, shear zones, joint planes, and quartz veins. Host for the tungsten mineralization.
- en ENDOKARN - Hydrothermally altered rock other than marble including igneous dikes and pegmatites, schist, and quartzite. Usually adjacent to or near marble skarn. Replacement minerals include pyroxene, amphibole, biotite, chlorite, white mica, clinzoisite, plagioclase, sphene, calcite, minor garnet and sulfides, and occasionally schellite. Remnant textures are often preserved.



**GEOLOGIC CROSS SECTION AND SAMPLE LOCATION MAP OF THE GIL TRENCHES GILMORE DOME, FAIRBANKS MINING DISTRICT, ALASKA**

by  
**G. L. Allegro**  
1985



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