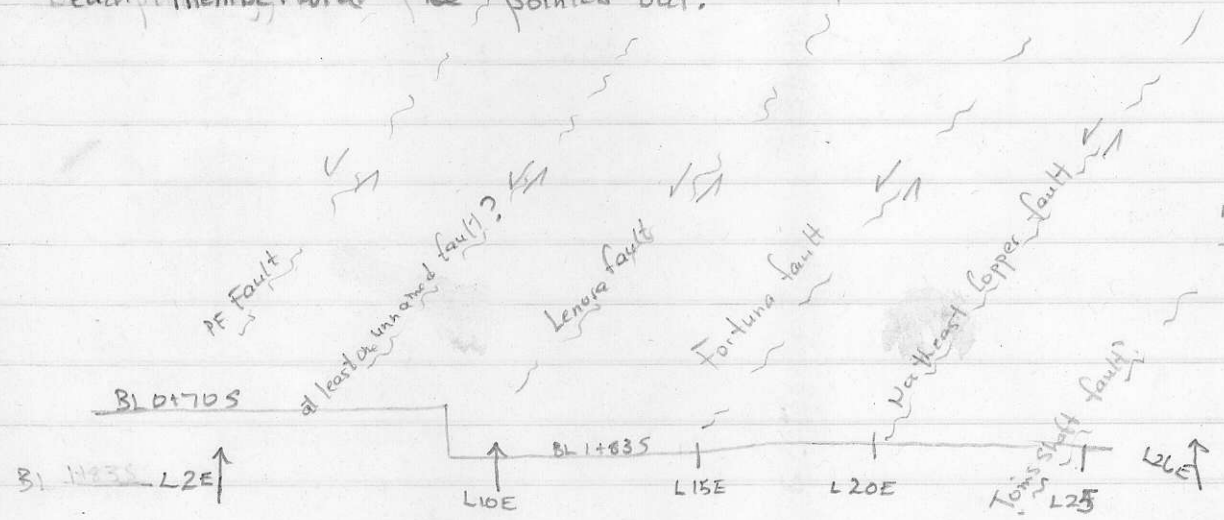
827536
92B/13

Notes on description of Lithologies exposed on Mt. Sicker

Marc Legault.

These descriptions specifically deal with the rocks mapped in 1984 by Marc Legault; in particular, those exposed generally to the north of Baseline 0+705 and BL 1+83, from L2+00E to L26+00N.

The geology of this 'northern panel' is generally straightforward, consisting of a homodinal northwest-trending, steeply northdipping series of felsic, intermediate and mafic metavolcanics and very minor metasediments, which are laterally extensive across the map area. At least 6 major northeast trending faults (each having consistent apparent left hand lateral displacements associated with them) neatly cut the geology into 7 blocks. While the following descriptions deal with the stratigraphy exposed throughout the northern panel, specific type localities for each member will be pointed out.



Starting from the structural footwall, ie proceeding from south to north and describing stratigraphic members in order of appearance, the following members have been defined:

1) felsic tuffs, (Postuk-Tuffon qtz porphyritic tuffs, lapilli tuffs)
2) mafic volcanics, minor chert, pillows and tuffs
3) Intermediate to felsic feldspar phyric tuffs and lapilli tuff)
4) Quartz-feldspar porphyry crystal tuff
5) (Dacite) feldspar porphyritic intermediate to felsic flow and tuffs
6) Intermediate tuff, chloritic two foliation mafic tuffs
7) Siliceous felsic tuff, quartz porphyry,

6) Cherty tuff, shale horizon
7) Intermediate tuff (aphyric)
8) felsic tuff - quartz phyric
9) Intermediate - felsic tuffs with minor mafic tuff
10) feldspar porphyritic tuffs.

total ≃ 1km of thickness

1) Posluk-Fulton - Northeast Copper quartz-phyric felsic tuffs, lapilli tuffs.

(description of)

Note: this lowest member is exposed at the Northeast Copper Zone and has been loosely correlated with those felsic tuffs exposed at the Posluk Fulton showing area.

Thickness: at least 100m thick

Colour: - generally weathers greyish white
- on a fresh surface, it is medium grey to white in colour.

Texture-grainsize: Tuffaceous looking, often quartz porphyritic with 2-10% 1-4mm anhedral quartz eyes (weakly rodded). In outcrop but in particular in drill core (MS-74-6) 1-5% 1-2mm subhedral feldspars are sometimes seen. Coarse lapilli-sized dark green subangular fragments are only generally seen near Tom's shaft (L 24E, 2+25S) ie the tuffs are normally fine-grained with no visible fragments (Ash)

Comments: As a rule, the absence of breccias, moderate to strong schistosity and the lack of flow features (amygdules?, flow banding) in these rocks and the extensive lateral continuity along strike is consistent with a tuffaceous nature for these felsic rocks.

A weakly Cupriferous Massive sulphide horizon at least 50cm thick occurs within these tuffs near L 24E, 2+25S (Tom's shaft). Chert also occurs within felsic volcanics near L 26+00E, 2+05S

(ie at the northeast Copper zone) hydrothermal alteration superimposed upon the rocks has obscured many features making a clear description impossible. However: Those mafic (to intermediate) rocks exposed near the cherts at Northeast Copper (L21+50E, 1+35S) are generally aphanitic to fine grained tuffs to lapilli tuffs (1-2mm grey fragments are seen in those rocks exposed north of the main chert near L21+50E + 4+20S and at the Fortuna adit (L17+70E, 0+35N)). Subrounded felsic fragments and chert occur in mafic rocks exposed near the chert near L21+50E, 1+35S). The mafic rocks at Northeast sometime contain quartz-eyes (2%) which appear to be amygdules (qtz-py composite amygdules).

Cherts: cherts, up to 3 m or more in apparent thickness are abundant within the mafic volcanics in the area extending from the Fortuna adit (L18+00E, 0+50N) to East of Tom's shaft near L26+00E, 1+83S (~800m!)

While mapping at northeast copper confirms the presence of 1 single shallow North dipping chert repeating itself on the dip slope, there may be more than one chert in the mafic volcanics.

The chert is weakly banded and is often fragment-bearing (2% 1-3 cm subrounded felsic fragments - probably derived from a thin felsic tuff, sometimes associated with the chert)

Locally, the chert has thin bands of sulphides (L22+90E, 1+00S) or more frequently contains 2-3 cm thick pyrite-chalcopyrite stringers (BL 1+83S, 22+00E & L21+50E, 1+35S)

Chlorite-Chert breccias: down the slope to the North of BL 1+83S, between L22+00E and 23+00E, rocks with thin discontinuous chert bands - 5m - 10cm thick in a chlorite matrix are associated with the chert horizons. These were tentatively interpreted as chert breccias but may also be a mixed ash-chert horizon correlative to the chert.

felsic tuff: a discontinuous felsic horizon 0.1-8(?) m or more in thickness has been identified near the chert at northeast Copper. It is generally weak sericitic, and fine grained, with 1-2% 2mm quartz eyes. It appears to pinch in and out quite quickly

2) Mafic Volcanics - Northeast Copper Zone + Fortuna Adit chloritic mafic tuffs, minor chert and felsic tuff.

Note: This description not only applies to those rocks exposed on surface at the Northeast Copper Zone (L 21E to L 24E, 1+63S) but extends to those pillowed mafic flows and mafic tuffs exposed near L 2E 2+30N which continue westward to the Postuk-Fulton showing area (L 1E 1+00N). The Charts and mineralization, while not occuring in the same rocks at both localities, are generally in the same viscinity within the stratigraphy (ie near the contact where felsic tuffs give way to mafic volcanics to the north)

Thickness: at least 60-100m thick

Colour: a) mafic volcanics - greyish green on weathered surface
- dark grey-green on fresh.

b) felsic volcanics: light grey-white on weathered surface
grey on fresh

c) Chert: greyish white to white on weathered
grey on fresh

Texture: grain-size

a) Mafic volcanics: In a single locality (50m east of L 2E 2+30N) pillows - long and flattened in the plane of flow (?) - were observed. 50cm x 2-3m, with 5-6 cm thick selvedges, these rocks were aphyric, with no amygdules visible. (They could also be sheet flows). No top determinations were possible

- The mafic volcanics exposed in the same region were massive looking, not very sheared (possibly indicating flows). Further to the east

with mafic volcanics near the chert (near L 23+25 E, 1+25 S) or may carry chert fragments (L 22+50 E, 0+60 S.) ← There, the contact with the overlying mafic tuffs is quite sharp.

Comments: pretty verbose

3) Intermediate (feldspar phyric) to felsic Tuffs and lapilli tuff

Note: The following description deals with those feldspar phyric intermediate to felsic tuffs exposed on the Northeast Copper road near L 13 E - 15 E, ~0+50 S as well as some minor hornfelsed occurrences (which may be xenoliths) near the quartz-bearing diorite on L 25+00 E 0+15 S.

Thickness = at least 60 m

Colour: medium grey to orange-grey on weathered surface
- grey with white or grey specks on fresh

Texture-Grain size: Those intermediate to felsic tuffs exposed near L 25+00 E 0+15 S have a fine tuffaceous texture; light grey fragments 1mm - 3mm in size often making up to 15-20% of the rock. Some of the light coloured angular fragments may be feldspar; they occupy the same general stratigraphic position as those feldspar-phyric tuffs exposed near L 14 E 0+50 S (ie they occur immediately to the south of the quartz feldspar porphyry-crystal tuff)

The intermediate to felsic tuffs exposed along the road near L14E, 0+50S are generally feldspar phyric (4% to 10% 0.5-1mm euhedral feldspars) but may be aphyric and quite strongly sheared (L15+00E 0+75S) frequently the feldspars are saussuritized, the rock often containing 10% mm epidote clots. This horizon sometimes is frequently vaguely banded - chloritic 5cm bands with 1-2% feldspars interbedded with grey 10% feldspar rich horizons.

Comments: none

4. Quartz-feldspar porphyritic felsic tuff

Note: this horizon, because of its distinctive appearance and lateral continuety, has been used as a marker horizon (it also weathers high and form conspicuous outcroppings, frequently cliffs from L 2+70 E to L 25+20 E).

Thickness: about 50 m maximum

colour: weathers to a white-grey colour (may be pinkish in spots) on a fresh surface, it is grey with white specks

Texture-grainsize: At its base, where visible, it is made up of banded quartz-porphyritic fine tuffs (3-5% 1-3mm QE) to quartz-feldspar lapilli tuff (1-2% 1-3mm quartz-eyes, 5-7% mm euhedral feldspar with occasional 3-5cm long charty felsic fragments) (L 2+00 E, 2+75 N). More frequently, it is massive (ie not sheared at all) in appearance with 1-5% 1-5 mm quartz-eyes and 2-20% 1mm-4mm euhedral to subhedral feldspars (L 14+00 E, 0+25 S, L 2+00 E, 3+00 N, L 25+20 E, 0+00 S) and may carry 1-2% charty felsic fragments up to 2-3cm in size.

Comments: none.

5- Intermediate to Felsic (Dacite) feldspar porphyritic flow

Note: This conspicuous massive rock form cliffs from L 7E to L 12E (12+25N) and has been seen in drill core (SRM-21) near L 18+00 E 0+50N.