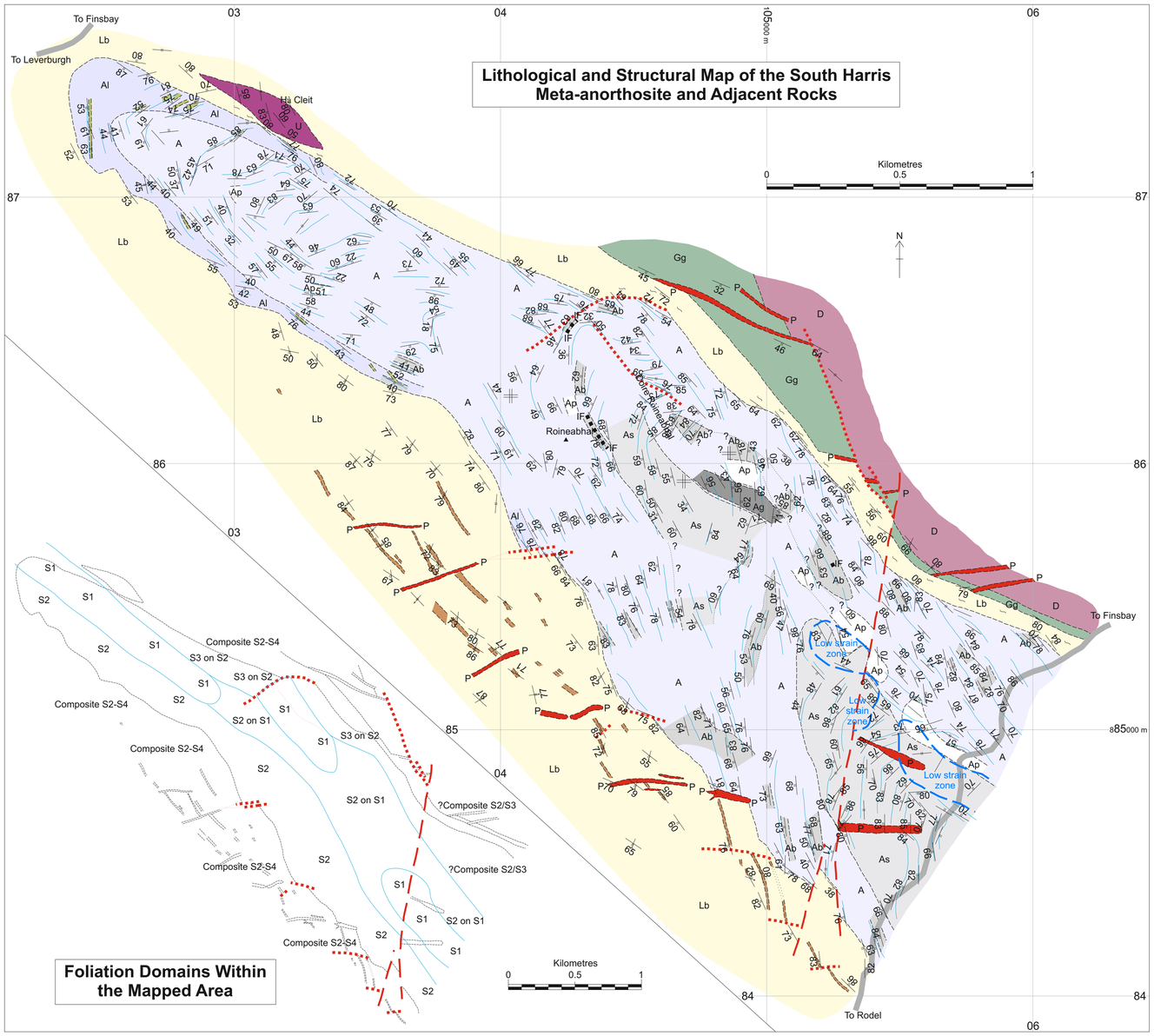
Lithological and Structural Map of the South Harris Meta-anorthosite and Adjacent Rocks



Foliation Domains Within the Mapped Area

Meta-igneous rocks:

Meta-anorthosite body:

- A — Undifferentiated anorthosite, anorthositic metabasite etc.
- Ap — Pure meta-anorthosite - meta-anorthosite in the strict sense, i.e. almost pure plagioclase; minimal mafic minerals.
- As — Schlieren/spotted meta-anorthosite - equidimensional mafic patches with garnet + clinopyroxene (often partly retrogressed to hornblende) in a purer anorthosite or anorthositic groundmass, usually flattened defining a foliation.
- Ag — Massive garnetiferous/gabbroic 'meta-anorthosite' - leucocratic metabasite with abundant garnet porphyroblasts and often with small clinopyroxene aggregates; often partly replace by hornblende.
- Ab — Banded 'meta-anorthosite' - 'meta-anorthosite' that shows compositional or textural banding, typically on a 0.1 m scale. Schlieren and massive garnetiferous facies are common components. Rhythmic layering is rare.
- Al — Zone of laminated metagabbro bands - undifferentiated 'meta-anorthosite' in which laminated meta-gabbro bands occur.
- Laminated meta-gabbro bands - finely laminated leucocratic metabasite, often with garnet porphyroblasts. Gradational in to other facies. Restricted to the NW margin of the meta-anorthosite body.

Other meta-igneous rocks:

- D — Metadiorite
- Gg — Garnet-metagabbro
- U — Ultramafic rocks, mainly pyroxenite
- P — Granite pegmatite

Other rocks:

- Lb — Undifferentiated, mostly psammitic to semi-pelitic meta-sedimentary gneiss (Leverburgh Belt)
- Pelitic migmatite

- Fault
- Minor shear zone
- Diffuse zone of mylonitisation
- Limit of low strain zone
- Foliation trend line
- Foliation dip, strike and lineation pitch
- Foliation, vertical
- Foliation, horizontal
- IF — Belt of intrafolial isoclinal minor folds
- Geological boundary
- Geological boundary - inferred
- Road

Explanatory Notes

The map shows the solid Lewisian geology of the South Harris anorthosite and adjacent rocks. Tertiary dykes and drift are omitted. Geological boundaries are generally of unknown type, with the exception of the late granite pegmatites and part of the SW margin of the metadiorite, which retain intrusive contacts.

The foliation domains on the inset map are defined by metamorphic grade and their relationship to each other and to minor pyroxenite vein-sytems (not-shown) that intrude the margin of the meta-anorthosite. S1 and S2 foliations predate the end of high-P granulite facies metamorphism and, the minor pyroxenite vein systems. Most of the foliation in the meta-anothosite is S1 in various states of transposition in to S2. S1, where least disturbed is steeply NW dipping; S2 is NW-SE striking and near veritical. S3 is a NW-SE striking, generally steep amphibolite facies foliation associated with regional SW-side-up dextral shearing. The sigma-geometry deflection of S1 in the NW part of the body is attributed to this. S3 is locally associated with a steep lineation, deforms the pyroxenite net-veins and, is associated with near-total retrogression to amphibolite facies. S4 is a NW-SE striking, steep amphibolite facies foliation developed mainly in the metasedimentary gneisses of the Leverburgh Belt; it has an associated subhorizontal lineation and commonly S-C fabrics/shear bands.

Map grid corresponds to UK Ordnance Survey national grid.