

Traces of planes

Do not use a ruler. For inferred lines, degree of uncertainty can be shown by spacing of dashes.

Boundaries

- Solid geological boundary, position constrained at scale of mapping.
- Solid geological boundary, marking a specific part in a gradational change.
- Inferred, solid geological boundary, position not constrained to the scale of mapping.
- Bedding form lines. Use a different colour if possible.
- Drift boundary.

Fold axial traces

- Trace of antiform.
- Trace of synform.
- Trace of recumbent fold.
- Trace of inferred antiform.
- Trace of inferred synform.
- Trace of inferred recumbent fold.

Planar measurements

Mark the dip in degrees as near to dip tick as possible. Where space permits mark the strike in degrees (3 figs) at the correct end of the strike line. Draw strike line at the precise orientation measured. The intersection of the dip tick and strike line should be positioned on measurement point.

- Strike and dip of bedding
- Strike and dip of undifferentiated foliations
- Strike and dip of penetrative foliation
- Strike and dip of spaced foliation
- Strike and dip of crenulation foliation
- Strike and dip of anastomosing foliation
- Undifferentiated fold axial surface
- Fold axial surface with axial planar penetrative foliation
- Fold axial surface with axial planar spaced foliation
- Fold axial surface with axial planar crenulation foliation
- Fold axial surface with axial planar anastomosing foliation
- Strike and dip of Joints
- Strike and dip of faults
dart and arrows indicate dip and strike separation directions respectively
- Strike and dip of igneous contact or sheet

Geological Mapping Symbols

Faults

Use a different colour, normally red, and a thicker line for faults. If unclear mark fault lines with an F.

- Fault, position constrained at scale of mapping.
- Fault, position not constrained at scale of mapping.
- Probable fault, position constrained at scale of mapping.
- Probable fault, position not constrained at scale of mapping.

Structural Measurements

Linear measurements

Mark the plunge in degrees and where space permits the azimuth (3 figs). Mark both as close to the arrowhead as possible. Draw approx. length in the precise azimuth direction measured. The tip of the arrow should be positioned on the measurement point.

- Plunge and azimuth of antiformal fold axis.
- Plunge and azimuth of synformal fold axis.
- Plunge and azimuth of S fold axis.
- Plunge and azimuth of Z fold axis.
- Plunge and azimuth of M fold axis.
Fold data can be augmented by letters to show association:
P=fold with penetrative foliation axial planar
S = spaced, C = crenulation, A = anastomosing
- Undifferentiated lineation
- Intersection lineation:
Letters indicate which planar features intersect
B = Bedding
F = undifferentiated foliation
P = penetrative S = spaced
C = crenulation
A = anastomosing
Mark equivalent fold asymmetry (S,Z or M) where possible
Pervasive lineation such as mineral or shape fabric
- Surface lineation such as slickenline

Other symbols

- Younging direction. Tail of Y points towards youngest strata.
Younging symbols should only be used in conjunction with a bedding reading.
Letter indicates type of evidence:
G = graded bedding; X = cross stratification; S = sole markings; R = ripples; M = mud cracks; E = erosive base.

Topographic Features

Usually in a different colour.

- Break of slope below steep slope. Dashed lines mark break. V's on steep side.
- Break of slope above steep slope. Dashed lines mark break. ticks on steep side.
- Valley axis. Fewer "x"s to indicate rounded sides, more ticks to indicate sharp sides.
- Gully/ Ridge. Use the v shapes as if they were contours to show the topography. If contours lacking solid arrow head shows downhill direction
- Crestline. Fewer ticks to indicate rounded sides, more ticks to indicate sharp sides.
- Cliff-blocks on vertical face
- Planar slope. Slope angle in degrees is shown.
- Concave slope.
- Convex slope.
- Flat ground, surrounding line usually a break of slope symbol
- Mound, spot marks summit
- Depression
- Depression, water filled.

Multiple measurements and structural chronology

Where a sequence of structures is identified at a locality, the relative chronology of these is marked with Roman numerals. An example is shown here.



For multiple measurements, locate the earliest structure (normally bedding) and position on the measurement point. Other measurements should be clustered closely enough that they are clearly from the same locality.

Notebook Cross-Reference

- Locality number.
- View sketch with notebook reference.

Practical Considerations

Line combinations

To prevent problems of superposing lines, the portions of which are indistinguishable at the scale of mapping, line types can be combined. Examples of combinations of break of slope are shown below. Similar combinations can be made with gully symbols and crestlines.

- Solid boundary + break of slope
- Drift boundary + break of slope
- Solid + drift boundary
- Inferred boundary + break of slope
- Inferred boundary + drift + break of slope

Lithological Symbols

Geological constraints:

- exposure of rock observed
- exposure of rock observed from a distance

Drift:

- Head, solifluction deposits
- Scree
- Blown Sand
- Alluvium
- Alluvial Fan Deposits
- Peat
- Present Beach
- Raised Beach. Number used to indicate beach level in raised beach sequence
- Undifferentiated Till
- Boulder Clay
- Moraine
- Made ground, natural features obscured by reworking by man.

Glacial movement indicators

- Mark azimuth of flow at arrow head.
- Glacial striae