

PRACTICAL 10 GEOLOGICAL APPLICATIONS OF STEREAONETS

PROBLEM 1

Cambrian quartzites have a dip and strike of 016/23 and rest unconformably on Torridonian Arkoses which dip and strike at 225/5. What as the attitude of the Torridonian arkoses when the Cambrian quartzites were laid down?

Answer
200/27

PROBLEM 2

Bedding within Cambrian quartzites is orientated 116/35, and contain foreset laminae which have a dip and strike of 185/49. What was the flow direction of the current which produced the cross-laminae?

Answer
308°

Problem 3

A fault cuts Lewisian gneisses and is orientated 320/35. The fault fails to cut the overlying Torridonian arkoses whose bedding is orientated 275/25. What was the attitude of the fault prior to the deposition of the Torridonian?

Answer
000/25

Problem 4

The long axes of flute casts plunge towards 340° on the north-east limb of a fold having zero plunge. Asymmetry of

the flute casts indicates a broadly down-dip current direction. The fold limb is orientated 315/75. What was the palaeocurrent direction?

Answer
016°

Problem 5

The limbs of an anticline have the following attitudes: 230/30 and 085/65. The long axes of trough cross-stratification plunge at 20-095 on the steeply dipping limb and indicate a current direction up-dip of the present attitude of the fold limb. What was the palaeocurrent during deposition?

Answer
028°