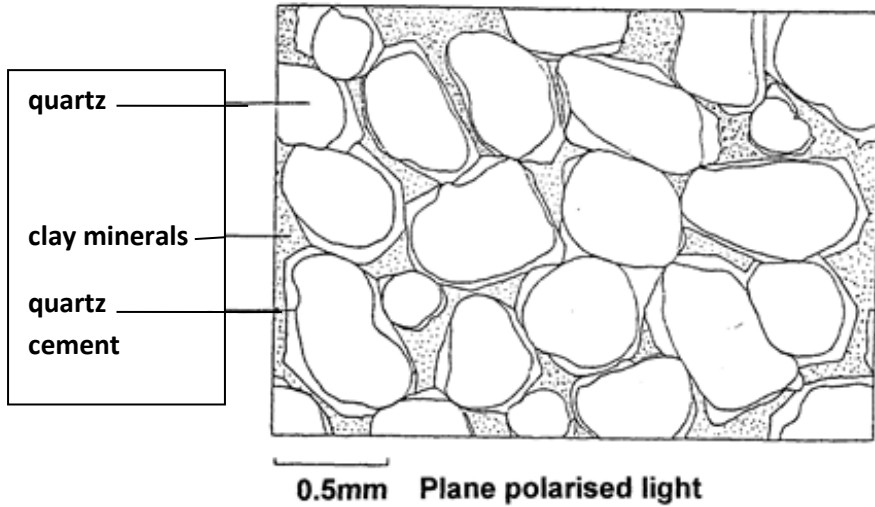
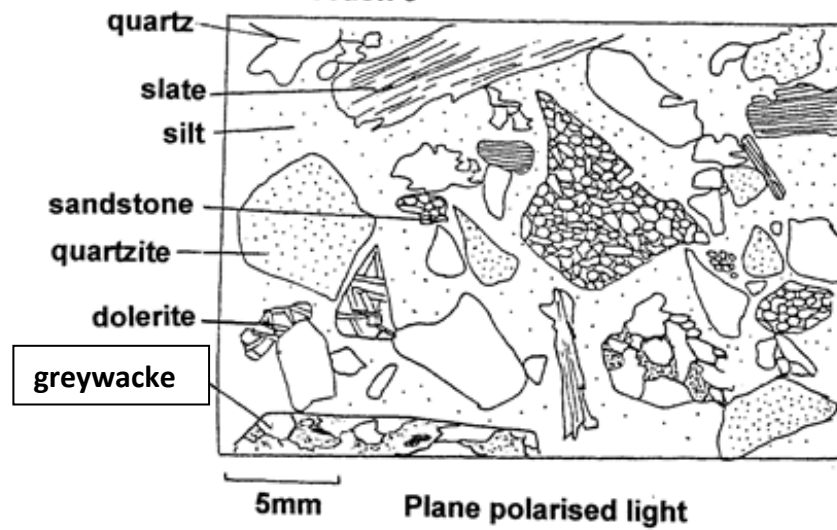


Rock revision exercise using drawings of thin sections
 Study these eight drawings of thin sections of rocks.

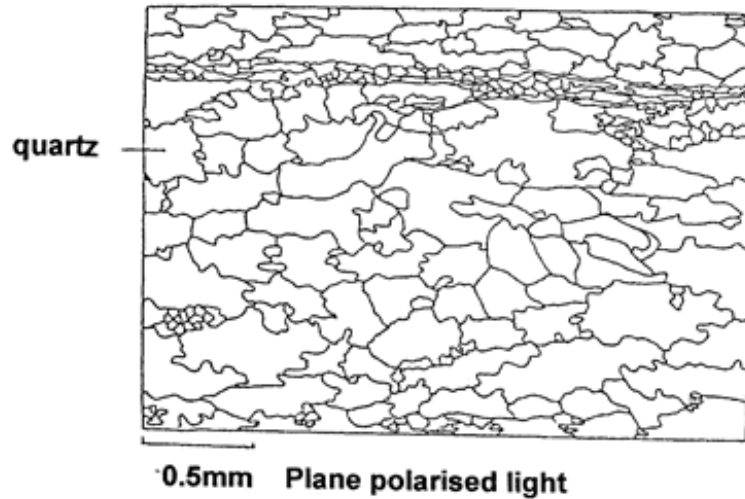
Thin section 1



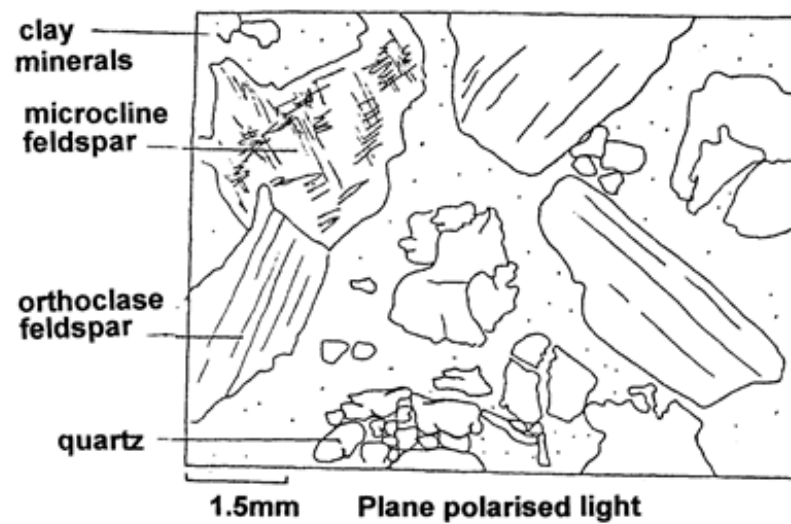
Thin section 3



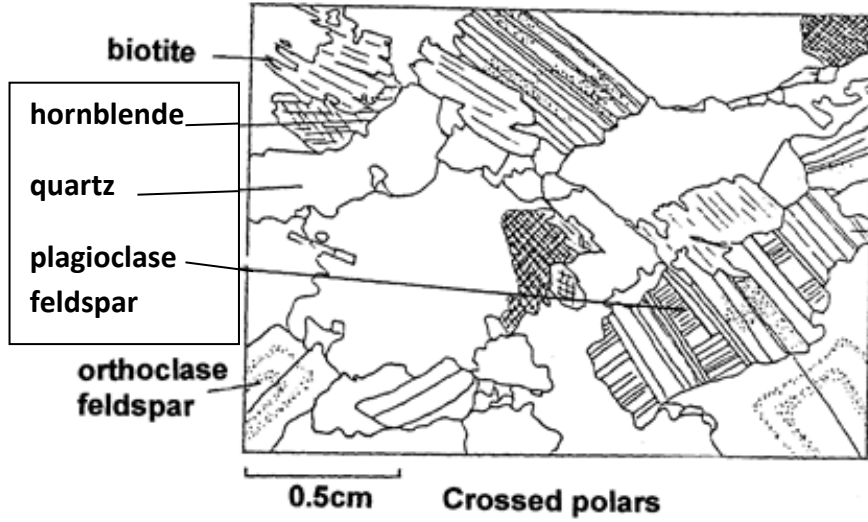
Thin section 2



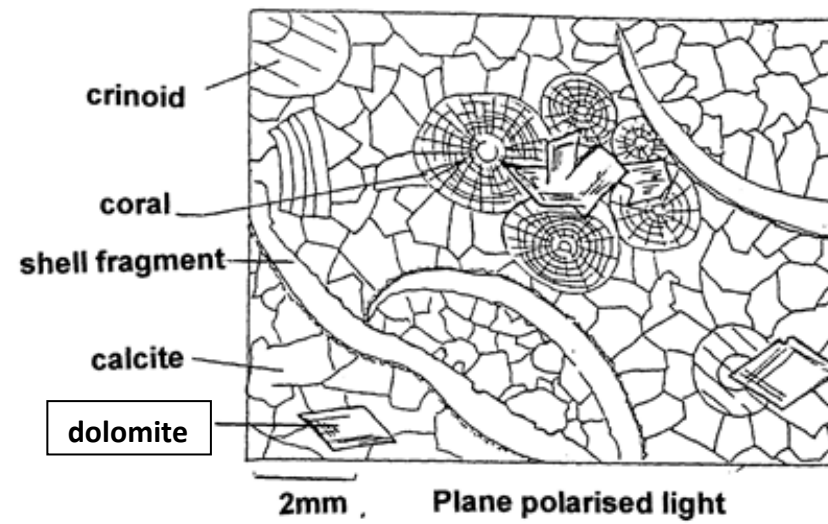
Thin section 4



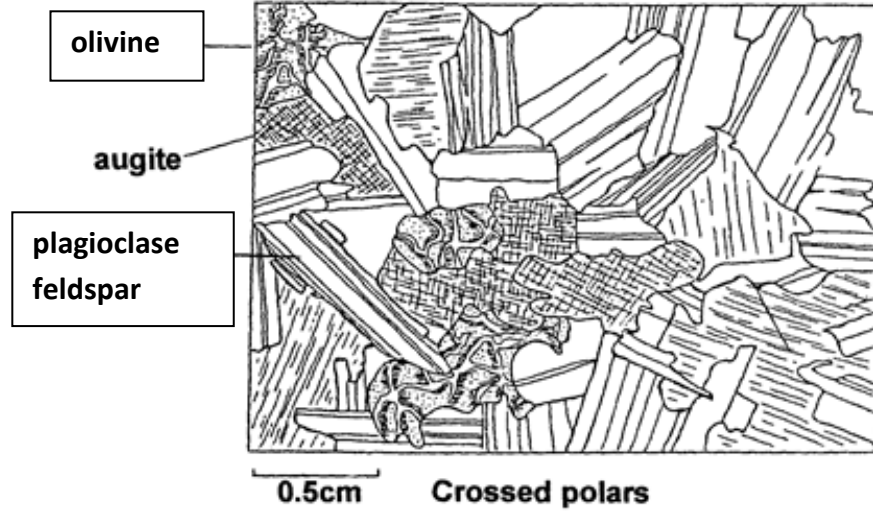
Thin section 5



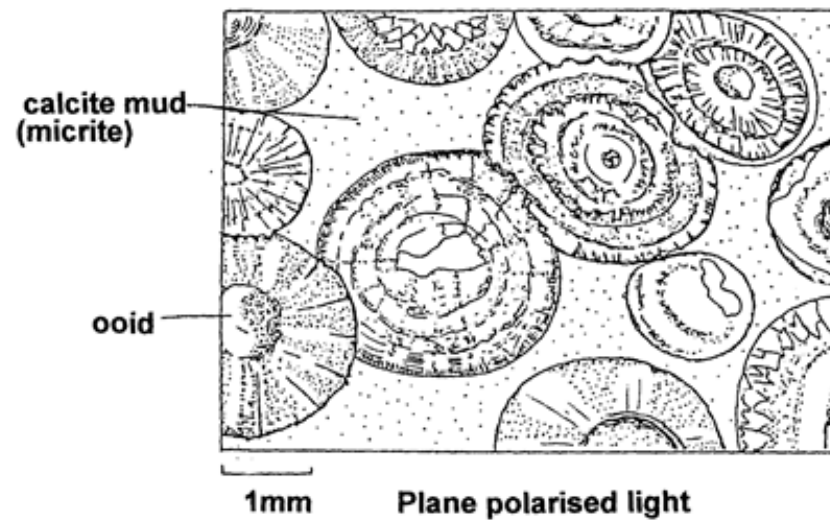
Thin section 7



Thin section 6



Thin section 8



Answer the following questions. Write your answers in the spaces provided.

a) For each rock give its grain size, describe its texture and name the rock.

Section	Grain sizes in mm (Maximum, minimum, modal)	Texture - shape, and arrangement of the grains (for sedimentary rocks) or crystals (for igneous and metamorphic rocks)	Rock name
1			
2			
3			
4			
5			
6			
7			
8			

b) Read the following rock description.

The rock is made of grains; it is not crystalline. It is coarse grained; most grains are more than 2mm in size. The minerals in the rock are quartz, feldspar and clay minerals. Quartz and feldspar grains make up 40% and 35% respectively of the rock. The matrix is largely composed of clay minerals. Grains are poorly sorted, varying in size from less than 0.1mm to more than 4mm. Most grains are matrix supported, have low sphericity and are angular to sub-rounded in shape.

(i) Match this rock description with one of the thin section drawings. The rock description best matches the drawing of thin section _____.

(ii) Based on the textural & mineralogical maturity of the rock what conclusion(s) can you draw about the transport history of this rock?

c) Suggest a link between the two rocks shown in thin section drawings 1 and 2

d) What is the evidence that the rock shown in the drawing of thin section 4 was sourced from a geologically diverse source area and that the original sediment making up the rock underwent very little sorting during its transport?

e) Explain how you know that the rocks shown in the thin section drawings 5 and 6 probably formed from different primary magmas but formed in similar igneous bodies.

f) How do you know that the rocks shown in the drawings of thin sections 7 and 8 were formed in different sedimentary environments?
