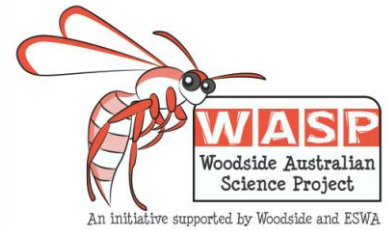


Geological Mapping Exercise 6



An exploration geologist sets out to prepare a geological map and section of the Gum Flat region in which he suspects the presence of a petroleum reservoir. The area is topographically flat and all strata strike east-west.

Commencing at point 'X', he walks due north and notes the following:

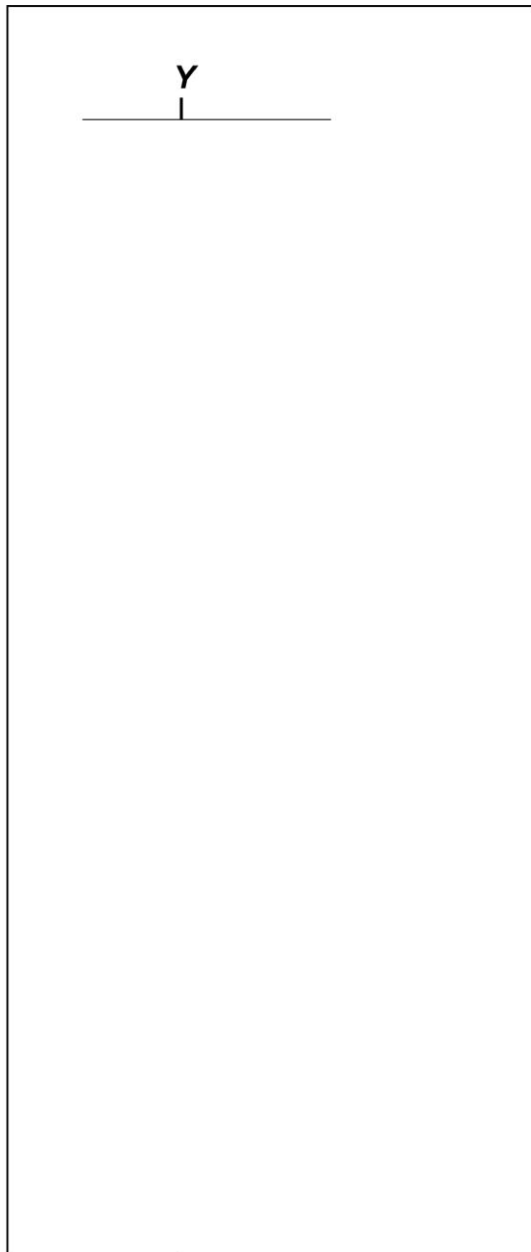
- 0-150 metres: impervious siltstone; dip 60°N
- 150-310 metres: porous sandstone; dip 60°N
 - Oil seep along bedding and joint planes
- 310-450 metres: impervious shale; dip 60°N
- 450-900 metres: limestone; dip 60°N at 450 metres
 - Dip 45°S at 900 metres
- 900-1200 metres: impervious shale; dip 45°S at 900 metres
 - dip 30°N at 1200 metres
- 1200-1500 metres: limestone; dip 30°N

Traverse completed at Y, 1500m from X (start)

1. On the following page, prepare a map to show the surface distribution of rock types using a scale of 1 cm = 100 m. Use the frame provided and start the traverse at X.

2. In the box provided construct a geological section from X to Y, showing rock strata and structures to a depth of 500m

Geological Mapping Exercise 6



Siltstone



Sandstone



Shale



Limestone



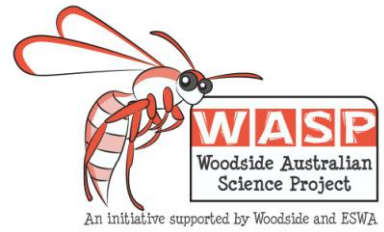
1cm : 100m

X

X

Y

Geological Mapping Exercise 6



3. Write a geological history of the area.

4. Show with the letter B a likely place where an exploratory well for oil could be placed. Give a reason for your answer.
