

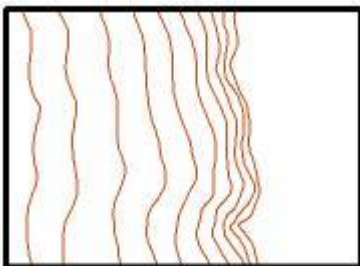
## Contour Interpretation



The 'wiggly brown lines' on a map are contours. Contours are a sophisticated way of showing the shape of the land. Contours on orienteering maps are typically drawn every 5m of height.

( A feature the height of a typical house with a pitched roof, would be shown by two contours. Check out your house. )

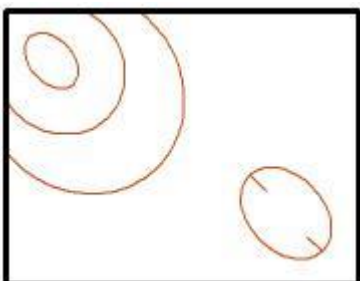
**Contours** join places of equal height, so if a route follows a contour you should be going neither up nor down. If your route crosses contours, you are going either up or down, but from the map it may be difficult, at first glance, to tell which.



You probably know that the closer together the contours, the steeper the slope. The opposite also applies: if there are no contours, the land is flat.

**Fig 1.** *A Gentle slope to the west, becoming steeper to the east, and then flat.*

On orienteering maps the contours do not have the height number printed on ( unlike O.S. maps which do ), and it can take a while to work out which direction is down and which is up. One clue is to look for any blue features. Streams, and most marshes are always in valleys. If you have enough of a stream network on your map you can recognise the branching nature of stream and tributaries, and therefore also of valleys. ( This pattern is called dendritic, meaning tree-like ). Tracks and paths are often in the valleys, but not always.



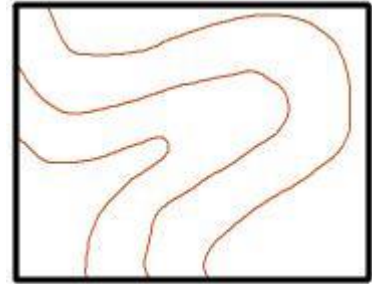
A roughly circular contour, one that joins onto itself, must be the top of a **hill**. A large depression, which will also have a roughly circular contour, has one or more tags. See Fig 2. The tag on a contour always indicates the lower side of the contour ( as do the tags on the crag symbol ).

**Fig 2.** *A hill ( 15m high ), and a large depression.*

Note tags on depression. Tags may be put on any contour, especially in complex areas, to make things clearer.

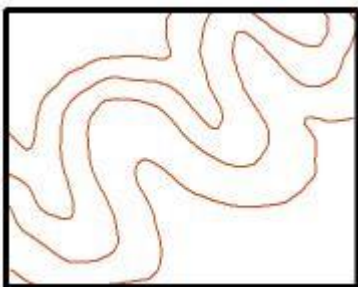
( Small depressions are shown with a different symbol (  ), as are pits (  ).)

A **valley** is shown by the elongated contours as in Fig 3. Unfortunately, a **spur** is shown by a similar pattern, although the elongation is usually shorter.

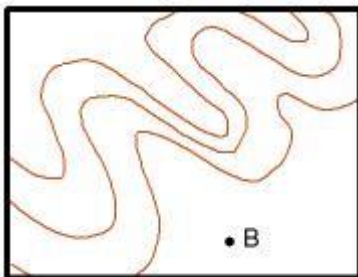


**Fig 3.** Valley going down to the SW, or spur going down to the NE?

The other information on an orienteering map may give you clues as to spur or valley; ‘blue-printed’ features, vegetation, tracks and paths, but you may need to look beyond the feature itself to be sure. ( See Fig 5. )

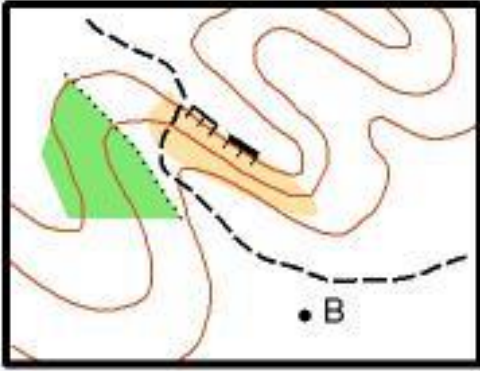


**Fig 4a.** You may find a pattern of several valleys alternating with spurs. Cannock Chase has a lot of these.



**Fig 4b.** Which are spurs, and which are valleys?

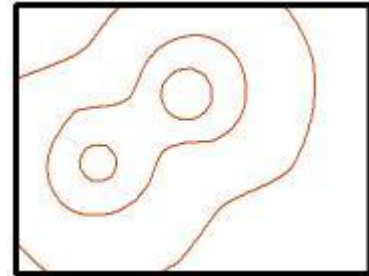
The best clue to which is which, relies on you being certain where you are. If you are at point B on the map above, you will see, to the NW of where you are, the valley in front of you, with a spur on either side.



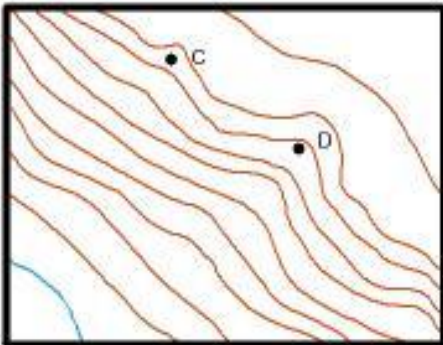
**Fig 5.** In a real situation you may have other clues. Again at B on Fig 5, looking NW, you would see a path going up the valley, then turning right and getting steeper. You would see a patch of rough open land on the right-hand side of the valley, and a block of thicker forest on the left-hand side. You might be able to see two crags at the top of the open on the right. You may also see that the right-hand side of the valley is steeper than the left. All

of these, although you will be lucky to get as many clues as this, identify the shape of the contours on the map as the valley in front of you.

Other contour features: A **col**, or saddle is a gap between two hills, Fig 6



**Fig 6.** A col or saddle

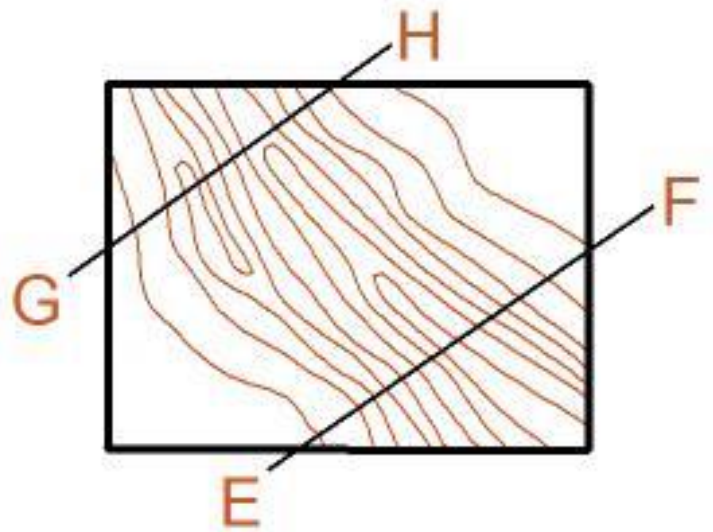


A **re-entrant**, is a small, usually dry, valley, often at the top of a steep slope.

**Fig 7.** A small re-entrant ( C ), and a larger one ( D ).

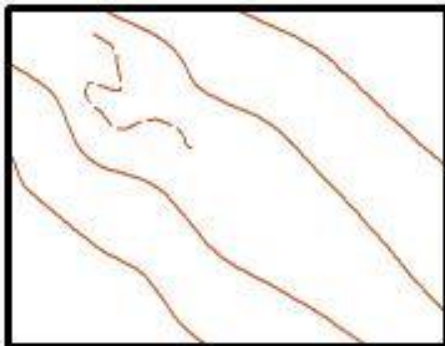
A **ridge** is, in contour terms, an elongated hill, see Fig 8.

**Fig 8.** A ridge running SE-NW



Imagine a route from E to F. Roughly halfway along, you're going uphill and you cross the same contour twice. You must now be going downhill ( think cross-section ).

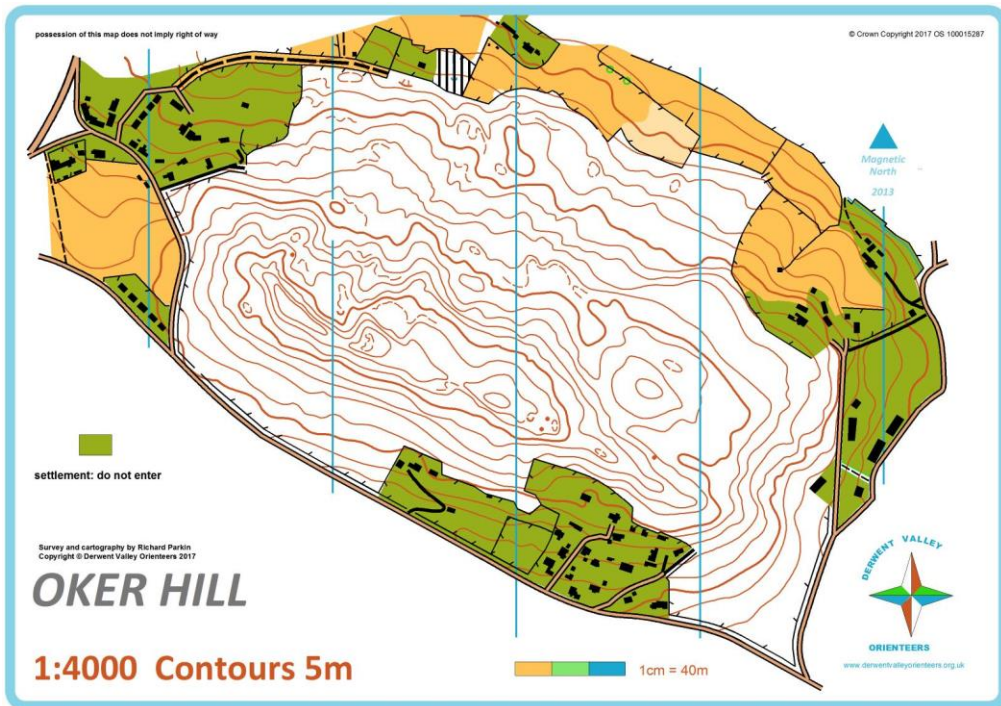
Now imagine the route G to H. Going uphill, you now come to the same contour three times. The second time you must have been going downhill, so to cross it a third time means you're now going uphill again.



Sometimes you will see a short length of 'dashed contour'. This is a "**form-line**" and is used to show the shape of the ground, in any of the ways shown above, but this shape would normally be invisible if we only had contours at 5m intervals. Think of it as an 'in-between' contour.

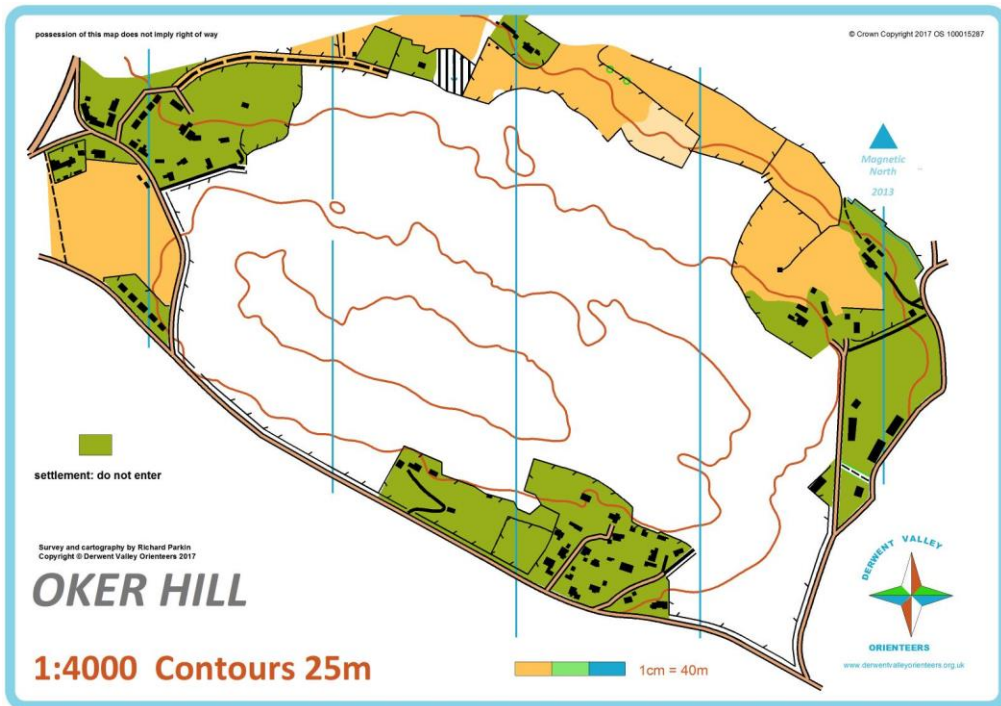
**Fig 9.** Slope with form-line

In Fig 9, the hill slopes down to the northeast. There is one feature on this slope but it is less than 5m high. Strictly, if we only used proper contours, we couldn't show it. So we use a form-line to indicate a small re-entrant in the slope.



**Fig 10.** A 'brown-features-only' map of Oker hill, nr Matlock. There are hills of various sizes, re-entrants, knolls ( brown dots ), cols, form-lines and an earthbank ( small length of index contours with several tags on the down-side).

Every fifth contour is shown by a thicker line, called an 'index' contour. This helps you to visualise the shape of the land when there are lots of the thinner contours.



**Fig 11.** *The same map but with index contours only.*

Does this help you see the shape of the whole area? If it does, try looking at Fig 10 again, but half-close your eyes to lose some of the detail. Could this work on a real O-map?

**Do the ‘wiggly brown lines’ mean a bit more to you now?**