3.6. Repeated stratigraphy

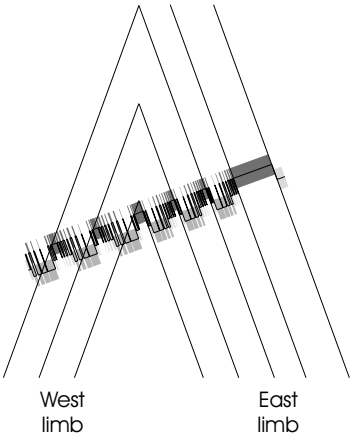
Importance of repeated stratigraphy

Recognising repeated stratigraphic packages is integral to reconstructing the geology. Marker points in either one hole or multiple holes constrains how beds can be linked. This is most important when crossing faults or reconstructing folds.

Repeated stratigraphy around folds

Correlating marker beds constrains the geometry of folds. This is best done at the interpretation stage. However, if possible it is important to attempt it in the core shed. If bed by bed matches can be made away from the fold in the core shed, then the interpretation can be more confidently be determined to be a fold rather than a younging change fault. It is very common to get folds and younging changes faults incorrectly assigned.

Note, it is important to remember that beds will be mirrored across the crest/trough rather than the hinge.



Data repeat and data loss faults

Usually, to determine fault offsets, two holes are needed to provide the repeated data above or below the faults. However, a strategically drilled hole can achieve the same.

Drill Hole 1 passes through Bed 2 twice whereas drill hole 2 does not pass through Bed 2 at all. Therefore, DH1 has a repetition of data either side fo the fault and the fault is referred to as a data repeat fault. Whereas DH2 is missing data on either side of the fault and is referred to as a data loss fault.

It is worthwhile sketching each fault on a drill hole plan to determine if it is a data repeat fault or a data loss fault. If it is a data repeat fault, it is worthwhile putting in some effort to locate matching beds on either side of the fault in order to determine the fault offset. This is sometimes easier to do in the core shed than at a later interpretation stage