

3.2.5.3. Log Corrections

Interpretation of the logs was complicated by varying ground conditions such as fluctuating water tables and the weathering status of the rocks. In addition, caving of the holes was a common feature, usually in mudstones, with both positive and negative caliper responses.

In several cases, a transition in weathering status from oxidized (HW to MW to SW)*to fresh could be seen in the LSD logs, (* HW: highly weathered; MW: moderately weathered; SW: slightly weathered). Several categories of ground conditions occurred, as follows:

- (i) Oxidized dry rock
- (ii) Oxidized wet rock
- (iii) Fresh (to SW) dry rock
- (iv) Fresh wet rock.

Oxidized wet and dry ground was found to be of minor consequence in the interpretation, and not studied in detail.

Correction for mud weight was not necessary as the holes were flushed with either water or air.

Although the "fresh wet" case was most common, several examples of "fresh dry" rock were seen in the Colebrook area (?indicative of drought conditions).

It was found that caliper deflections (cave or constriction) resulted in the following spurious LSD deflections:

- Oxidized rock: 1" = 8-10 000 cps;
- Fresh dry rock: 1" = 6-8 000 cps (average \approx 6 000 cps);
- Fresh wet rock: 1" = 4-800 cps (average \approx 600 cps).

The procedure adopted in the interpretation of the logs was to reduce the size of the LSD deflection by the extent of the caliper deflection, and then (where applicable), to transpose the LSD plot to the equivalent fresh wet position before estimating the relative density (RD) of the coal.