

6.2 Seismic Data Quality

The seismic data coverage on some of the permit is on a tight grid. In particular, the G-lines are only one or two kilometres apart. However, they were recorded in the late 60's and early 70's and are of poor quality compared to today's standards.

The 1980 reconnaissance survey is mainly an open zig-zag of lines with only one loop closure. It was however, the backbone of the interpretation, especially for locating basement. This improved reliability is due to the use of airgun arrays with a 96 trace cable, and to state-of-the-art processing. Subroutines such as velocity filtering, wavelet designature, velocity analysis, multiple removal and migration are now normally used in production processing, but were mainly unavailable in 1970. The use of 48 fold data now, in place of 12 and 24 fold data, has also increased the signal to noise ratio.

The older data from the late 60's and early 70's was shot 12 and 24 fold using either aquapulse or airgun. The processing sequence that was performed was unsophisticated when compared to modern capabilities although it was the "State-of-the Art" at the time. Insufficient and variable documentation caused difficulties in working with these data.

In contrast, the section (80 F-I) presented as Plate 5B shows the good quality data that can be obtained with careful application of modern sophisticated processing. Plate 5A is a version of the same line displayed prior to migration. The comparison of 5A with 5B shows the value of migration in the permit because of the steep dips, discontinuous water bottom and diffractions due to faults, unconformities and other causes. The parameters for the various surveys are documented in Appendix I. Included are acquisition, processing and display details.