A deterministic deconvolution has then been applied to the upgoing wavefield using a 1000 ms operator derived from the downgoing wavefield on a trace by trace basis. The consistent portion of the downwave data has been used to derive the deconvolution operators. A comparison of Displays VE (upwave after deconvolution) and VC shows how successful the deconvolution has been in removing reverberants from the upgoing wavefield.

In order to enhance events in the upgoing wavefields median test were performed, a 9 sample median and horizontal dip filter was chosen as best displaying events in the bottom part of the well.

FILTER DETERMINATION

To help design filters for the displays the data has been transffered into F-K space at three stages during the processing sequence and preliminary and final bandpass filters have been designed accordingly. The optimum filter is chosen such that it is the least restrictive filter that can be applied to the upgoing wavefield to remove noise whilst retaining good resolution of the events present. A filter of 5,10-40,60 Hz is considered optimum for this data set.

RESIDUAL WAVEFIELD

In order to show any side waves or diffraction hyperbola present within the data set, the undeconvolved data with both upwaves and downwaves subtracted is displayed.

BRIEF DESCRIPTION OF DISPLAYS SUPPLIED

The VSP displays supplied are essentially of 2 types. Displays included in the VSP book report are intended for use as quality control displays showing each major stage in the processing.

Loose leaf displays are intended as working copies and are produced at a time scale to match the seismic line supplied (3.75 inc/sec). A detailed description of each display is contained in the appendices at the back of this book.

Display VG1 shows the VSP's convolved with the zero phase maximum frequency filter designed for the VSP.

Approved by   Processed by

D.J. Dushman   Ardiek Mahargono

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