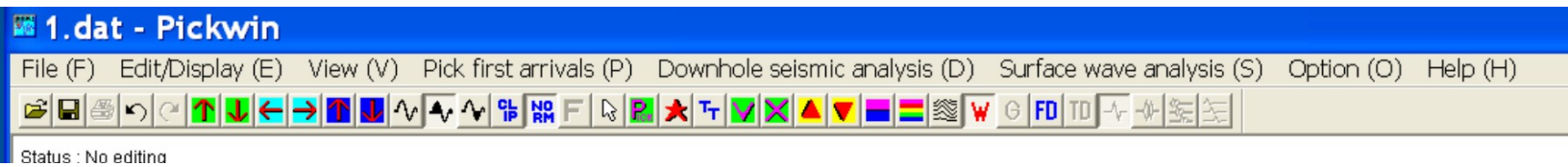


## Analyzing Seismic Data

### Pickwin

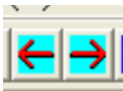
Open .dat files: File > Open SEG2 file



Use buttons across to adjust –



Up and down arrows to increase/decrease amplitude



Sideways arrows to increase/decrease length of x axis



Up and down arrows to increase/decrease spacing on y axis



Next three buttons to change shading of waveforms



CLIP to clip waveforms above a set amplitude



NORM to turn off normalization of waveforms  
(will set to same scale)



F to undo filtering



V → draw velocity line



X → exit edit mode

Filtering –

Ctrl H to lower low-cut frequency filter

Ctrl L to lower high-cut frequency filter

Also under Edit/Display > Filtering

Pick first breaks: Pick first arrivals > Pick first breaks

Adjust picks by clicking on waveform

Save: File > Save Pick file

Then open new file to repeat, but first delete all picks! Otherwise will save all picks made since opening the program.

Go to Pick first arrivals > Delete all picks

## **Plotrefa**

Open pickfiles

For 1<sup>st</sup> file: File > Open Plotrefa file (traveltime data and velocity model)

For all other files in the line: File > Append Plotrefa file (traveltime data only)

Make elevation file – text file, 2 columns, the first for distance and the second for elevations. Have an elevation for every shot location. For example, the upper line should start:

0 12.836

5 12.631

10 12.642

If you need to modify travel times, Traveltime curve > modify traveltimes (all shots)

Can check reciprocal times and adjust, Traveltime curve > correct reciprocal time automatically

To do a Time-term inversion to get a starting model:

Time-term inversion > assign layer (2,3) arrivals

Then click where you see the slope change for every shot

When you have layers assigned (2 or 3), do the inversion:

Time-term inversion > Do time-term inversion

To change view, View > Scale

You can adjust the model:

Velocity model > Modify layer boundary (point by point) will allow you to change the boundaries under each shot location by clicking and dragging with mouse

Velocity model > modify velocities (by mouse) will allow you to specify a velocity and change each segment to that value by clicking on it

To do final inversion:

Tomography > generate initial model will give you a starting model based on the model you constructed above (make sure first box is checked, 'use layered model as initial model')

Tomography > inversion (with default parameters) will run the inversion