

Section
32

32 Noise Log

32.1 Services - Noise Survey

The signals from the noise tool are conditioned by filters and amplifiers on the ANASW board and routed to the AUDIO board. The AUDIO board produces 4 separate signals that are then sent to the DSPAUX and DSP for digitizing. The signal is amplified by the 4 stages of the Audio board so that each output is gained up by a factor of ten from the previous stage. The Warrior software examines the 4 signals and chooses the signal that is not saturated and with sufficient signal strength to analyze. This signal is digitally filtered in the computer and divided into the conventional frequency components. The frequency spectrum and raw and filtered signals may be monitored on the computer screen. A number of samples may be averaged to produce a station reading for a given depth. The averaged frequency spectrum may be monitored on the computer screen.

Start the service from Services in the normal manner and power the downhole tool. A raw data monitor window is presented which has four signal displays corresponding to the conventional four peak to peak voltage ranges.

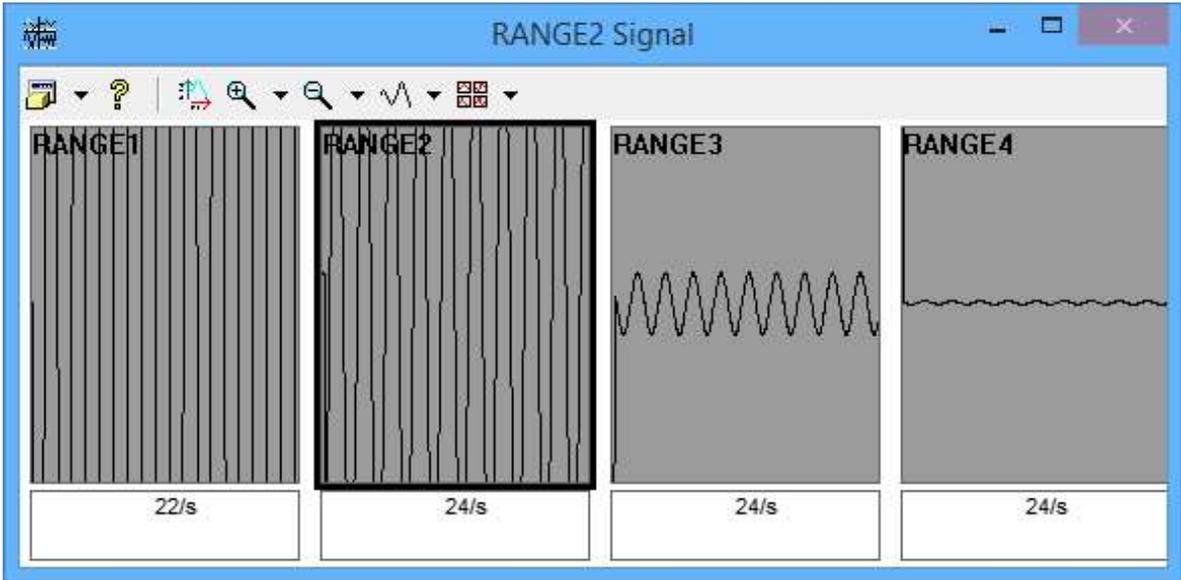


FIG: 32.1 Range Signals

The usual range of options associated with waveform monitors is available for this display. During operation the system automatically selects the most appropriate range for data collection.

The system also displays a window displaying the processed waveforms and frequency spectra. The survey is also controlled from this window. The settings that are used for sampling stations are controlled by clicking the [Settings] button. There is also a "Record Soundfile" checkbox that when checked will make a WAV recording after the data has been sampled.

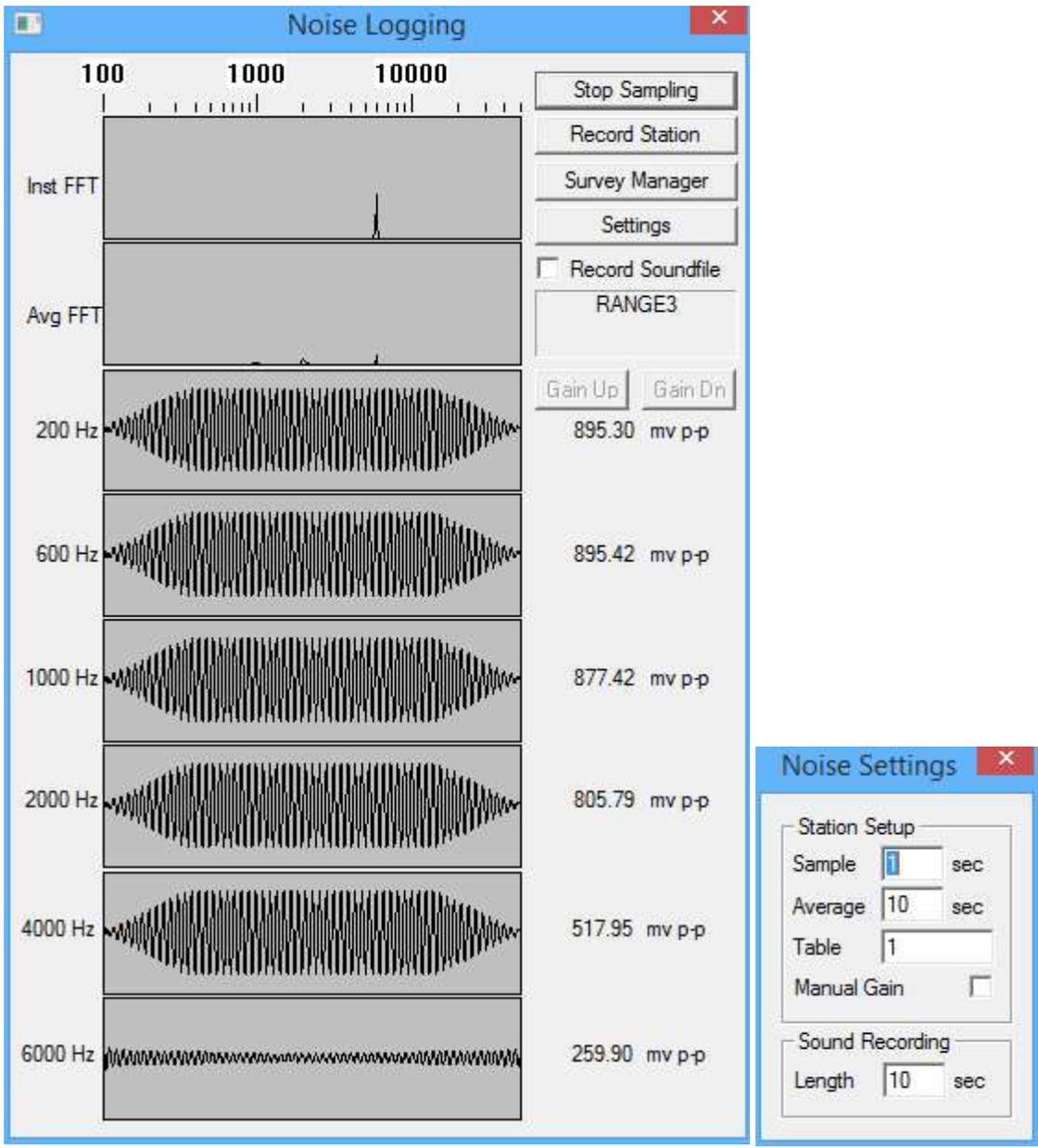


FIG: 32.2 Noise Logging Control

32.2 To run the survey

Click on the [Start Sampling] button and signals should appear in the various windows. To record a station, click on the [Record Station] button. With the parameters shown the system will take ten one second samples, average the results and record them as a depth station in a survey table.

To view the survey table, click on the [Survey Manager] button. As each depth station is recorded the results are entered into the survey table as shown.

The screenshot shows a window titled "field/well/run1/_noise/_survtbl_1" with a menu bar containing "File" and a toolbar with buttons for "Open", "Edit", "Generate", "Save", "Sound", "FFT", and "Exit". Below the toolbar is a table with the following data:

#	Depth	200hz	600hz	1000hz	2000hz	4000hz	6000hz	Sound	Date
+ 6	4000.00	4937.44	4937.24	4937.76	4938.32	4938.23	4957.61	10 s	Fri Jan 23 11:48:14 2015
+ 5	5000.00	4217.45	4218.42	4217.62	4217.91	4217.57	4237.27	0 s	Fri Jan 23 11:47:12 2015
+ 4	5000.00	2681.44	2680.15	2680.35	2680.65	2680.18	2691.86	0 s	Fri Jan 23 11:46:41 2015
+ 3	6000.00	1508.81	1509.25	1509.56	1509.42	1510.00	12.09	0 s	Fri Jan 23 11:46:04 2015
+ 2	7000.00	517.28	517.61	517.59	517.58	517.86	2.62	0 s	Fri Jan 23 11:44:57 2015
+ 1	8000.00	1377.39	1377.37	1377.34	1376.56	1376.63	178.17	0 s	Fri Jan 23 11:44:10 2015

FIG: 32.3 Survey Manager

After all stations have been recorded the survey may be output as log curves and/or tabular results. If there are stations which need to be excluded from the final results this may be achieved by selecting the particular station in the survey table (by clicking anywhere in its line) and then clicking the Disabled box as shown below.

The screenshot shows the "Edit Noise Survey Station" dialog box. It contains the following fields and options:

- Station Type: Noise Survey
- Station #: 4, is shown as 3
- Comment: (empty text box)
- Depth: 5000.00 ft
- Disabled
- 200 hz: 2681.44 mV
- 600 hz: 2680.15 mV
- 1000 hz: 2680.35 mV
- 2000 hz: 2680.65 mV
- 4000 hz: 2680.18 mV
- 6000 hz: 2691.86 mV

FIG: 32.4 Edit Survey Station

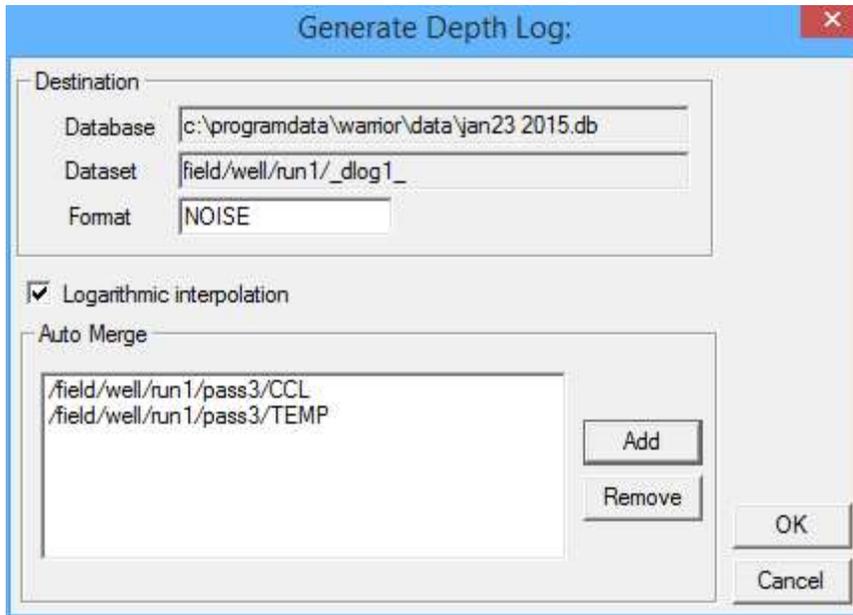


Fig. 32.7 Curves added to Depth pass to be generated

Double click on the curve(s) to be merged with the noise data. To generate the merged presentation click on the **OK** button and the merged log will be displayed on the screen. With long log intervals this may take several seconds.

Note that a merged presentation may be generated at any time in order to monitor the progress of the survey, e.g. after each depth station if required.

For final presentation a tabular output of the survey table may be added to log grid presentation when assembling the final plot using the Plot Job Editor.

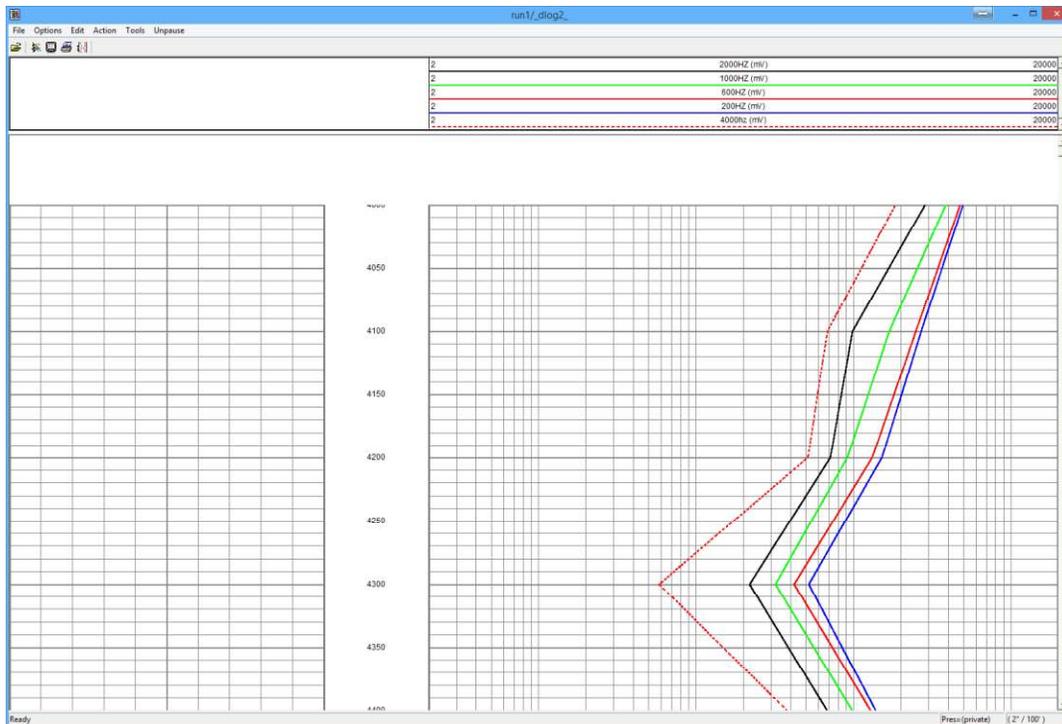


Fig. 32.8 Example Noise Log output