

257211

4.2

INSTRUMENTS AND STREAMER

Figure 4.2.1 on the next page shows a very basic functional block diagram of the streamer/instrument system used by the contractor on the survey. The Titan system as used on this vessel still has what are basically the original design streamer electronic modules, and as such these have a limitation in that they have to be removed from the streamer to be fully tested.

Generally speaking, the performance of this system (in terms of reliability) has been very slowly improving. It still has some problems with failures and is not considered by this author as being the best system for operating in the prevailing weather conditions of this area.

The streamer hardware performance was reasonable during this survey with just over ten hours of streamer downtime being accumulated. The major faults which caused this downtime were the failure of SEM 13 on the 14th of November and the problem with streamer parity errors which developed on the 16th. This latter problem was rectified by removal of an additional lead in and the replacement of two stretch sections at the head of the streamer.

Initially the streamer had one dead trace 152, and on the 12th there were problems with traces 145-146 due to the failing SEM 13. Both these problem areas were removed during streamer work on the 13th apart from the odd spiking trace, the only other trace problem was 160 which consistently failed the daily harmonic distortion tests from the 19th of November onwards.

Ambient streamer noise levels were reasonable on the whole with 2-3 microbars average noise proving the rule. There were of course some exceptions to this when swell noise bursts were predominant and also on line 198A when passing ship's noise inflated the figure. Of all the data recorded the worst problems with swell noise bursts were encountered on line 191, on the 16th, and line 205, on the 21st. In all instances, when weather conditions deteriorated and swell noise increased, the streamer was lowered to 11-12 meters depth to minimize the effects of swell noise.

Streamer feather was very reasonable for the major portion of the survey. Lines 202A and 204 were both started with high feather angles but in both instances this reduced steadily to within the ten degree specification. Both these instances and that of the feather angle on the second part of line 187 were judged to be the result of localised current conditions and all were considered to be providing data which would possibly only be marginally improved by standing by for slack water, remembering the rate at which such standby time can be accumulated in such an area.

This streamer continues to suffer from random trace spiking during recording. Whenever possible the traces seen as subject to this problem were noted on the observer's log and so should be easily edited.

The use of 6.25 meter groups at the head of the streamer was the cause of some problems. The first was of course the reduced level of noise rejection on such a shorter group, this resulted in the front of the streamer exhibiting much higher noise levels and this was especially true in periods of heavy swell conditions.