

Report of the Investigation into the
Sinking of the Fishing Vessel

PREMIER

with the Loss of six lives
on 12 December 1990

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(All times in this Report are GMT)

1. SUMMARY

The 22.5 metre seine net fishing vessel PREMIER capsized and later sank with the loss of six lives about 30 miles east of Lerwick, on the 12 December 1990.

At 0639 hours on 12 December 1990 an EPIRB alert was received from the capsized vessel. A major search was initiated involving RAF Nimrod aircraft, helicopters, a lifeboat and many other vessels.

At the time of capsizing a northerly wind of storm force 10 was blowing. Reports indicate that the conditions were particularly severe, with wave heights regularly reaching 21 metres.

The last certain information about PREMIER before the capsizing is that at 1000 hours on 11 December she was fishing near the Bergen Bank, 60-70 miles east of her final position. It is known that her Skipper had heard the weather forecast broadcast at 0555 hours which gave warning of storm force winds and that he was considering making for Lerwick; it appears that he did so, but whether PREMIER was still on course for Lerwick when she capsized, or was hove to and dodging, cannot be known.

2. VESSEL DETAILS

2.1 PREMIER

Fishing Vessel Type	:	SEINE
RSS Number	:	A11749
Fishing Letter and Numbers	:	INS 121
Length registered	:	22.53 metres
Length overall	:	24.37 metres
Breadth	:	6.70 metres
Depth	:	2.83 metres
Main engine	:	Caterpillar D379 421 kw
Builder (Yard No 018)	:	Campbeltown Shipyard, Argyll
Keel laid	:	1974
Port of Registry	:	Inverness, Scotland
Gross tonnage	:	60.04 tons

(Figure 1 shows the FV PREMIER at sea)

2.2 Crew

The vessel carried Skipper, Mate and four Deckhands.

2.3 Certificates

The vessel held -

- a. UK Fishing Vessel Certificate issued under Fishing Vessel (Safety Provisions) Act 1970 valid until 31 January 1992.
- b. Report of Inspection Radio (SUR 69 Radio) valid until 6 September 1992.

Three of the crew including the Skipper held Certificates of Competency qualifying them to command this vessel in the area in which she was operating.

2.4 General Description

The vessel was built with an all-welded steel hull, raked stem and cruiser stern. Three watertight bulkheads divided the hull into four main compartments: fore-peak and fo'c'sle store; fish hold; engine room and accommodation.

In 1979 a gutting shelter was fitted to the vessel. It was a half-shelter which extended from 4.5 metres aft of the whaleback to a position about 1 metre aft of the galley and, athwartships, from bulwark to bulwark. It was partially open at the fore-end and fully open either side of the superstructure.

The vessel was surveyed by a Marine Directorate Fishing Vessel Surveyor in February 1988, when the hull of the vessel was ultrasonically tested and the findings were considered to be satisfactory. The Surveyor commented that the vessel was in sound condition and was obviously well looked after. The main structural members, both below and above deck, were in good order. So were the rudder and propeller; and the tail-shaft had been re-skimmed in way of the packing and an outer bush had been renewed.

2.5 Compliance with Stability Criteria

Records show the results of two roll period tests, on 19 February 1981 and 11 February 1988. Both showed compliance with the criteria laid down, the GM on each occasion equalling or exceeding the required 0.70 metres.

2.6 Freeing Port Arrangements

The vessel had solid bulwarks with 6 freeing ports on each side. The required freeing port area for this vessel as built in 1974 without a shelter is 1.11m² each side of the vessel. This requirement was more than met, with an actual area of 1.33m² each side.

However, in 1980 the Department issued further guidance on freeing port areas in the form of a Survey Memorandum. For this vessel with a 'shelter open at both ends', the total area became 2.36m² each side. There is no information to show if the freeing port area was changed from 1.33m² each side, to accord with this guidance.

3. NARRATIVE

- 3.1 PREMIER sailed from Peterhead, Scotland on Sunday 9 December 1990, at about noon, for fishing grounds near the BERYL oil field. The weather forecast for sea areas Fair Isle and Viking, issued at 1700 hours that day, was for southerly winds force 4 to 5 veering south-westerly and westerly, with showers and moderate to good visibility.
- 3.2 The following day, 10 December, she was Seine-net fishing on her own until 1800 hours, after which she joined with FV DONDARR to go pair fishing. At about 2300 hours the same day both vessels completed pair fishing, and came alongside each other to exchange fish boxes. During this operation, the Skipper of DONDARR saw all the crew of PREMIER and having not been made aware of any problems onboard, he assumed everything was in order. The wind at that time was estimated to be force 2 to 3, the visibility was good and the sea was calm.
- 3.3 On Tuesday, 11 December at 1000 hours, the Skipper of DONDARR contacted the Skipper of PREMIER by radio. During this conversation it was understood that PREMIER was fishing off the Bergen Bank and had only 20 boxes of fish onboard. The two Skippers discussed the weather, from which it was apparent that the Skipper of PREMIER was aware that a force 10 (storm) was forecast. He was undecided whether to go to Lerwick or "dodge" (that is, heave to); he might wait for the next one or two forecasts, that would be the 1355 hours or 1800 hours forecasts, before making a decision.
- 3.4 The only known communication with PREMIER after that, was when the Skipper of FV FAIRMORNE contacted her from his vessel which was alongside in the Shetland Islands. Unfortunately the communication was poor which made it impossible to have a conversation, therefore the transmission was terminated without making proper contact.
- 3.5 Nothing further was heard from PREMIER until 0639 hours on Wednesday 12 December when a distress alert was received from her Emergency Position Indicating Radio Beacon (EPIRB).
- 3.6 A full scale Search and Rescue Operation was mounted which included three helicopters, nine surface craft and the Lerwick Lifeboat, plus two RAF Nimrods. The capsized vessel was located at 0822 hours, and a winchman was lowered to the vessel and to inspect an inflated liferaft, which he found to be empty. In the course of this operation, the winchman was injured (see Figure 2).

3.7 The capsized hull of PREMIER sank in a depth of about 100 metres of water at 1310 hours. At sunset (1530 hours) the search was terminated, without any sight of a survivor.

(Figure 3 shows the position of the fishing vessels)

4. COMMENTS

4.1 Weather

During 11 December a deep low passed from South West Iceland to near the Norwegian coast, subsequently moving south easterly towards Denmark. At midday on 11 December its centre, according to the general synopsis issued by the Meteorological Office, was 200 miles north of Shetland with a pressure of 966 mbs. By midnight it was in sea area North Utsire at 970 mbs, and by midday on 12 December it had reached Denmark and had filled to 982 mbs. Severe weather was associated with this depression. The forecasts for sea areas Viking and Fair Isle (which include, respectively, the grounds where PREMIER was fishing and the region of her capsized) were as follows:

0500 hours 11 December

Viking	Southerly veering northerly 7 to severe gale 9, perhaps storm 10 later. Rain. Moderate or good.
Fair Isle	Southerly veering northerly 7 to severe gale 9, perhaps storm 10 later, ... squally wintry showers. Moderate or good.

1305 hours 11 December

Viking	Southerly veering northerly 7 to severe gale 9, perhaps storm 10 later in Viking. Occasional rain. Moderate or good.
Fair Isle	Westerly veering northerly 7 to severe gale 9, increasing storm 10 for a time. Showers. Moderate or good.

1700 hours 11 December

Viking	South-westerly veering northerly severe gale 9 increasing violent storm 11 for a time. Rain then showers. Moderate or poor.
Fair Isle	Westerly veering northerly severe gale 9 to violent storm 11, decreasing 4 later. Squally showers. Moderate or poor becoming good.

0500 hours 12 December

Viking	Northerly storm 10 to hurricane force 12 decreasing 4 or 5. Wintry showers. Moderate.
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Fair Isle Northerly severe gale 9 to violent storm 11 decreasing
4 and backing south- westerly. Wintry showers then
rain. Moderate.

The picture it will be seen is of very strong winds up to hurricane force, initially from a southerly quarter then veering through west to northerly.

4.2 Events before the Accident

At 1000 hours on 11 December when PREMIER and DONDARR spoke to each other, their Skippers discussed the weather and it is reported that both vessels were experiencing freshening westerly winds perhaps reaching force 7. PREMIER's Skipper said that he had heard the 0500 hours forecast of storm force winds and was considering making for Lerwick. It seems clear from the relative positions of the fishing grounds and of the capsized (see Figure 3) that not very long after this - possibly after he had heard the 1305 hours forecast which was broadcast at 1355 hours - he did indeed head for Lerwick. The weather hindcast prepared after the accident suggests that by that time the wind was at least gale force, south-westerly, and it continued to freshen, and veered north-westerly in the next few hours. By 0600 hours on 12 December it was north-north-westerly, of storm force 10. Thus, for PREMIER as she headed for shelter, it would have at first been on the port bow, then for a short time from right ahead, and by the time of capsized it was almost on the starboard beam if she was then still on course for Lerwick. She may however by that time have been dodging (hove to). The distance from the grounds off the Bergen Bank to the position of capsized is something over 60 miles, so if PREMIER indeed left the grounds after the forecast broadcast at 1355 hours, a speed of about 4 knots would have brought her to the position of capsized.

4.3 Cause of the Accident

Although storm force winds are not exceptional anywhere around the UK coasts, and can generally be negotiated successfully by well-found craft, every seaman knows that the actual severity of sea conditions is by no means purely dependent on the mean wind speed at a given time. In this case it is very significant that the Coxswain of the Lerwick Lifeboat, on the scene at 1100 hours, reported the weather and sea as being the "worst ever experienced" since he had become Coxswain; while the helicopter crew reported waves regularly reaching 21 metres, approaching twice the height normally to be expected in winds of force 10.

These witnesses were of course on the scene some time after the actual time of capsized, but there is no reason to suppose that the weather which they encountered was markedly different from that a few hours earlier.

From the evidence available it is likely that the vessel was making for Lerwick on a westerly course, or possibly hove to, and the sudden capsize was a result of a large wave breaking over the fore end between the whaleback and the half-shelter. This could have flooded the deck under the whaleback, the foredeck up to the gunwale and within the shelter. Possibly before the water on deck had time to drain overboard through the freeing ports, the vessel may have been hit by another wave or waves; it was noted by the witnesses referred to above that the very large waves were tending to come in pairs, as is indeed quite often the case.

To test the theory that the vessel was swamped, a series of stability calculations were carried out to ascertain, among other things if water on the foredeck could cause the vessel to capsize. The results of these calculations confirmed that the loaded condition of the vessel at the time of the accident complied with the required intact stability criteria. However, if the vessel took a large quantity of water on the foredeck she would, as well as trimming by the head, become unstable even without taking into account the wind, waves or the large free surface effect of the water on deck.

Clearly a smaller quantity of water would render her unstable when these effects are taken into account.

4.4 Measures which might avert such Accidents

Vessels such as PREMIER are in most respects excellent sea boats, well capable of withstanding severe weather. However, this accident demonstrates the weakness introduced by the fitting of half-shelters. When large quantities of sea water are taken on the foredeck, they can become contained underneath the whaleback and within the forward bulwarks before the freeing ports provided allow the deck to clear itself. The fitting of three-quarter length shelters which extend from the whaleback to aft would prevent this large quantity of water becoming trapped on the foredeck.

The only action which, from the evidence available, could reasonably be taken and would have avoided the accident would have been for PREMIER to head for shelter earlier. Clearly, however seaworthy they are, vessels are at hazard in the sort of conditions which PREMIER met; but it is fully appreciated that only the Skipper can decide, on the basis of forecasts and his own observations, when it is best to run for shelter; it is also recognised that the decision now requires even more foresight than used to be the case as, because of the difficulties of the fishing industry, fishing vessels tend to go further afield in search of their catch than used to be necessary.

5. FINDINGS

5.1 The loss of Life and the Vessel

The loss of life of the crew members was a direct result of the vessel foundering, and her foundering was a direct result of severe weather conditions.

It is considered that the vessel whilst operating became overwhelmed by the sea during a storm and capsized.

5.2 Condition of the Vessel and Equipment

This type of fishing vessel is considered to be a good sea boat. From what has been established in this investigation, the vessel's equipment was well maintained and operated.

5.3 Search and Rescue (SAR)

All that was possible was carried out by everyone involved in this extensive search.

6. RECOMMENDATIONS

The Inspector's Report containing the Findings and the Recommendations has been sent to the Marine Directorate, Department of Transport, for their examination, comment and further action. Resulting from the investigation the report recommended that:

- 6.1** The guidance information on "freeing port areas" is fully implemented especially in the case of vessels fitted with half-shelters.

- 6.2** In the longer term, consideration should be given to the fitting of full shelters on fishing vessels instead of half-shelters.

Figure 1



Courtesy of Mr N Gow

FV PREMIER at sea

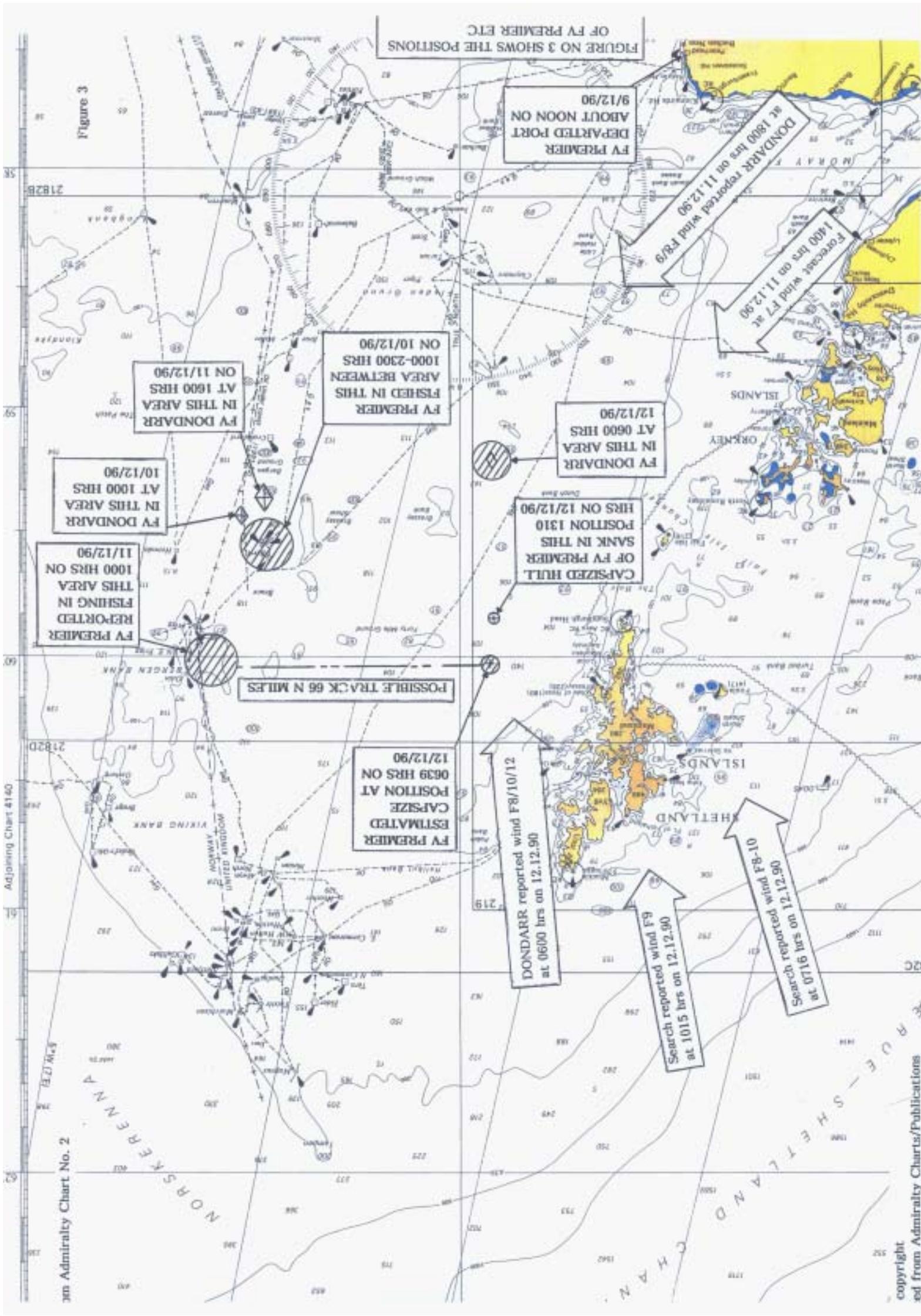
Figure 2



FV PREMIER after capsized

and prior to sinking

Courtesy of RAF Kinloss



OF FV PREMIER ETC. FIGURE NO 3 SHOWS THE POSITIONS

FV PREMIER DEPARTED PORT ABOUT NOON ON 9/12/90

Forecast wind F7 at 1400 hrs on 11.12.90
DONDARR reported wind F8/9 at 1800 hrs on 11.12.90

FV PREMIER FISHED IN THIS AREA BETWEEN 1000-2300 HRS ON 10/12/90

FV DONDARR IN THIS AREA AT 0600 HRS 12/12/90

CAPSIZED HULL OF FV PREMIER SANK IN THIS POSITION 1310 HRS ON 12/12/90

FV PREMIER ESTIMATED CAPSIZE POSITION AT 0639 HRS ON 12/12/90

DONDARR reported wind F8/10/12 at 0600 hrs on 12.12.90

Search reported wind F9 at 1015 hrs on 12.12.90

Search reported wind F8-10 at 0716 hrs on 12.12.90

FV PREMIER REPORTED FISHING IN THIS AREA 11/12/90

FV DONDARR IN THIS AREA AT 1000 HRS 10/12/90

FV DONDARR IN THIS AREA AT 1600 HRS ON 11/12/90

POSSIBLE TRACK 66 N MILES

Figure 3