Report of the investigation

of the grounding of the

Romanian registered ro-ro cargo vessel

Octogon 3

two cables south-east of Spurn Head

at the entrance to the River Humber

on 22 October 1998

Marine Accident Investigation Branch
First Floor
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Extract from

The Merchant Shipping

(Accident Reporting and Investigation)

Regulations 1994

The fundamental purpose of investigating an accident under these Regulations is to determine its circumstances and the causes with the aim of improving the safety of life at sea and the avoidance of accidents in the future. It is not the purpose to apportion liability, nor, except so far as is necessary to achieve the fundamental purpose, to apportion blame.

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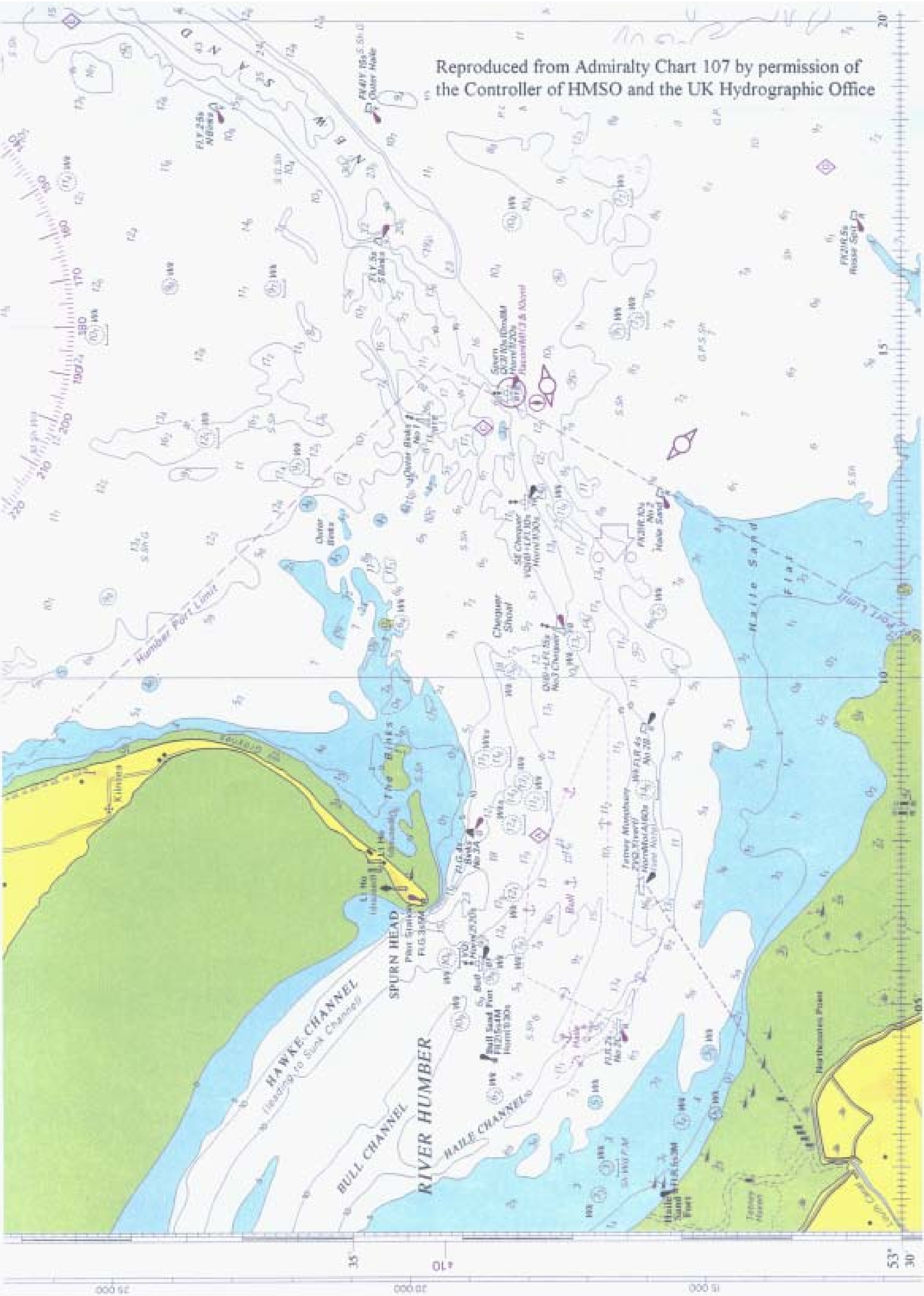
GLOSSARY OF ABBREVIATIONS AND ACRONYMS

ABP	Associated British Ports
ARPA	Automatic Radar Plotting Aid
cm	Centimetre
GPS	Global Positioning System
IMO	International Maritime Organization
m	Metre
PEC	Pilotage exemption certificate
UTC	Universal Co-ordinated Time
VHF	Very High Frequency
VTS	Vessel Traffic Service



SYNOPSIS

On 22 October 1998, the Romanian registered ro-ro cargo ship *Octogon 3*, of 9,983gt, ran aground on Spurn Head at the entrance to the River Humber. Humber Coastguard informed the MAIB by telex at 2314 that day. Captain P Kavanagh carried out the investigation.

As *Octogon 3* approached the pilot embarkation point at the Spurn light-float, inbound from Dunkerque, she was informed by VTS Humber that because of the strong south-westerly winds, the pilot launch would meet her further in towards the river between Chequer No 3 and Binks No 3A buoys. The ship continued towards the river entrance and altered course to 295°, when 5.8 cables south of the Chequer No 3 buoy. In this position, she was on the south, and port side, of the approach channel and in the path of an outbound ferry. On her new course the effects of the wind and tide caused the ship to set to starboard and towards the north side of the channel.

As *Octogon 3* approached Binks No 3A buoy, she was asked by the coxswain of the pilot launch to slow down to enable the pilot to board. He did so between the Binks No 3A buoy and Spurn Head. Despite *Octogon 3*'s engines being put to full ahead, she was unable to counteract the effects of wind and tide and grounded shortly after the pilot had reached the bridge.

On the following morning and near to high water, the ship refloated, with the aid of a tug. *Octogon 3* completed her voyage to King George Dock in Hull, without assistance or further incident. There was no damage to the hull and there was no pollution.

The grounding was caused by the selection of a course on board *Octogon 3* that made no allowance for either wind or tide so that she was set to starboard until she grounded near Spurn Head.

No pilotage passage plan had been drawn up, and no positions were plotted during the approach to the pilot embarkation point. Therefore, the bridge team was ineffective in providing safe navigational information and the master failed to appreciate of the rate of drift.

The sea-keeping qualities of the pilot launch were such that it was not capable of embarking safely pilots on board ships at the designated boarding position in bad weather. There was an absence of any warning from VTS Humber to show concern about *Octogon 3*'s position and track.

Recommendations are made on the training of navigating officers and passage planning, and on traffic lanes for the approaches to the River Humber, pilot launches and VTS operators to be more proactive in giving warnings to vessels.

SECTION 1 - FACTUAL INFORMATION

1.1 PARTICULARS

1.1.1 *Octogon 3*

Owner	:	Octogon Shipping and Services
Port of Registry	:	Constanza
Flag state	:	Romania
Built	:	1984 at Wismar, Germany
Construction	:	Steel (ice strengthened)
Classification society	:	Germanischer Lloyd Registru Naval Roman (Bureau Veritas)
Type	:	Ro-ro cargo
Length overall	:	140.12m
Gross tonnage	:	9,983
Maximum draught	:	7. 232m
Propulsion	:	2 diesel engines giving 10,599kW to 2 propellers
Persons on board	:	25

1.1.2 Accident details

Injuries to persons	:	None
Damage to ship	:	None
Pollution	:	None
Location of incident	:	Latitude 53° 34.'2N Longitude 000° 06.'7E About two cables south-east of Spurn Head
Date and time of incident	:	22 October 1998 at 2042 (UTC)

1.2 NARRATIVE OF EVENTS LEADING UP TO THE GROUNDING

All times are UTC. All courses are true.

On the evening of 22 October 1998, with a south-west force 6-8 wind blowing, the ro-ro cargo vessel *Octogon 3* was in the final stages of a passage from Dunkerque to King George Dock in Hull with 18 freight units on the main deck and 1,000 tonne of water ballast. She had an even keel draught of 5.3m. It was dark.

As she approached the entrance to the River Humber she established communications with VTS Humber on VHF radio channel 14 and reported that she was 5.2 miles from Spurn light-float and asked which side she should rig her pilot ladder. She was told starboard side.

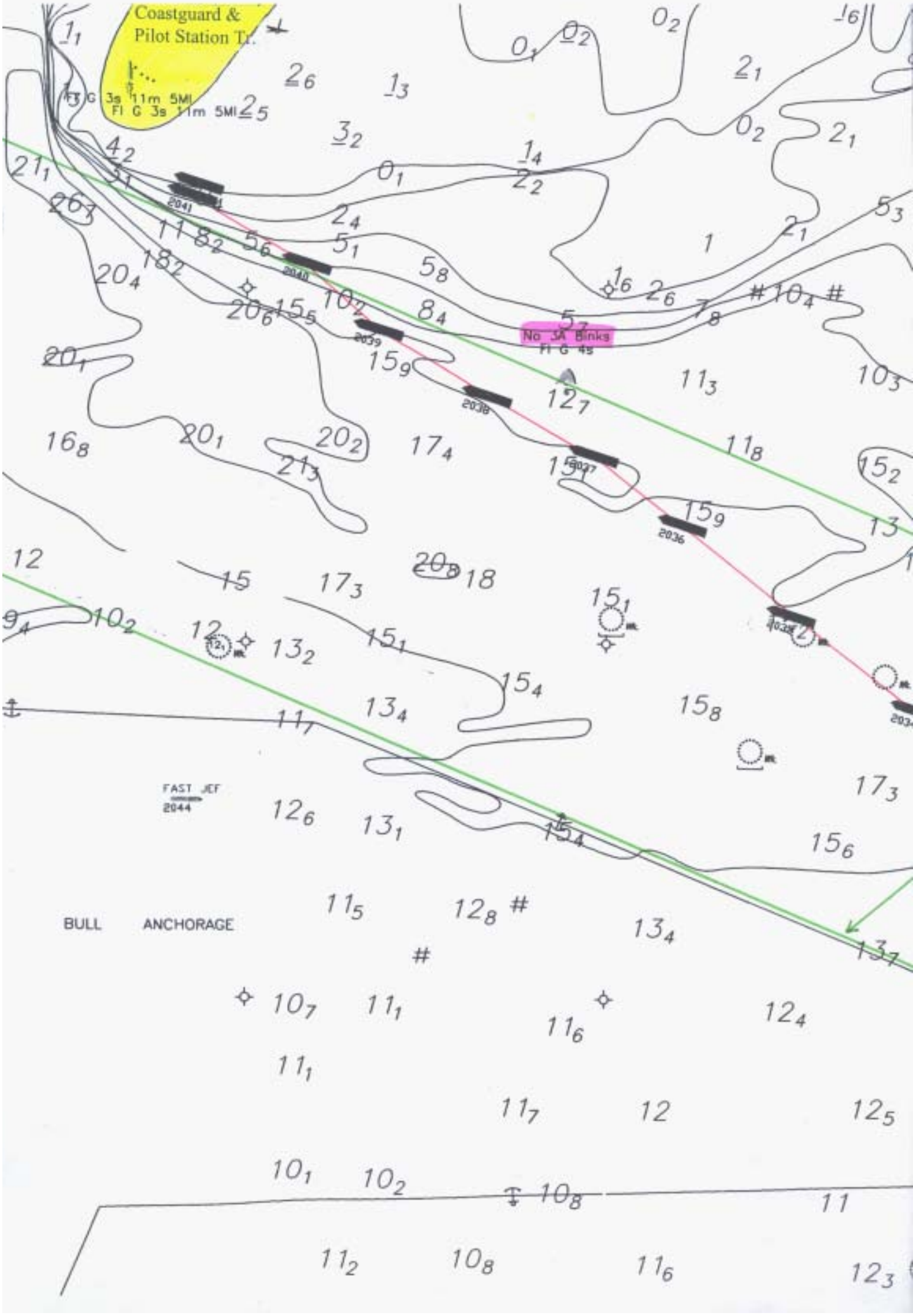
When 6.5 cables south-east of Spurn light-float, the designated pilot embarkation position, she altered course to 265° and reported her position to VTS Humber at 2022. She was instructed to keep coming in towards Chequer No 3 buoy and told that the pilot would board between Chequer No 3 and Binks No 3A buoy. Five minutes later *Octogon 3* asked VTS Humber for information on outbound traffic and further details about where the pilot would embark. VTS Humber reported that *Norland* was passing the Bull light-float and *Fast Jef* was 2 miles behind her.

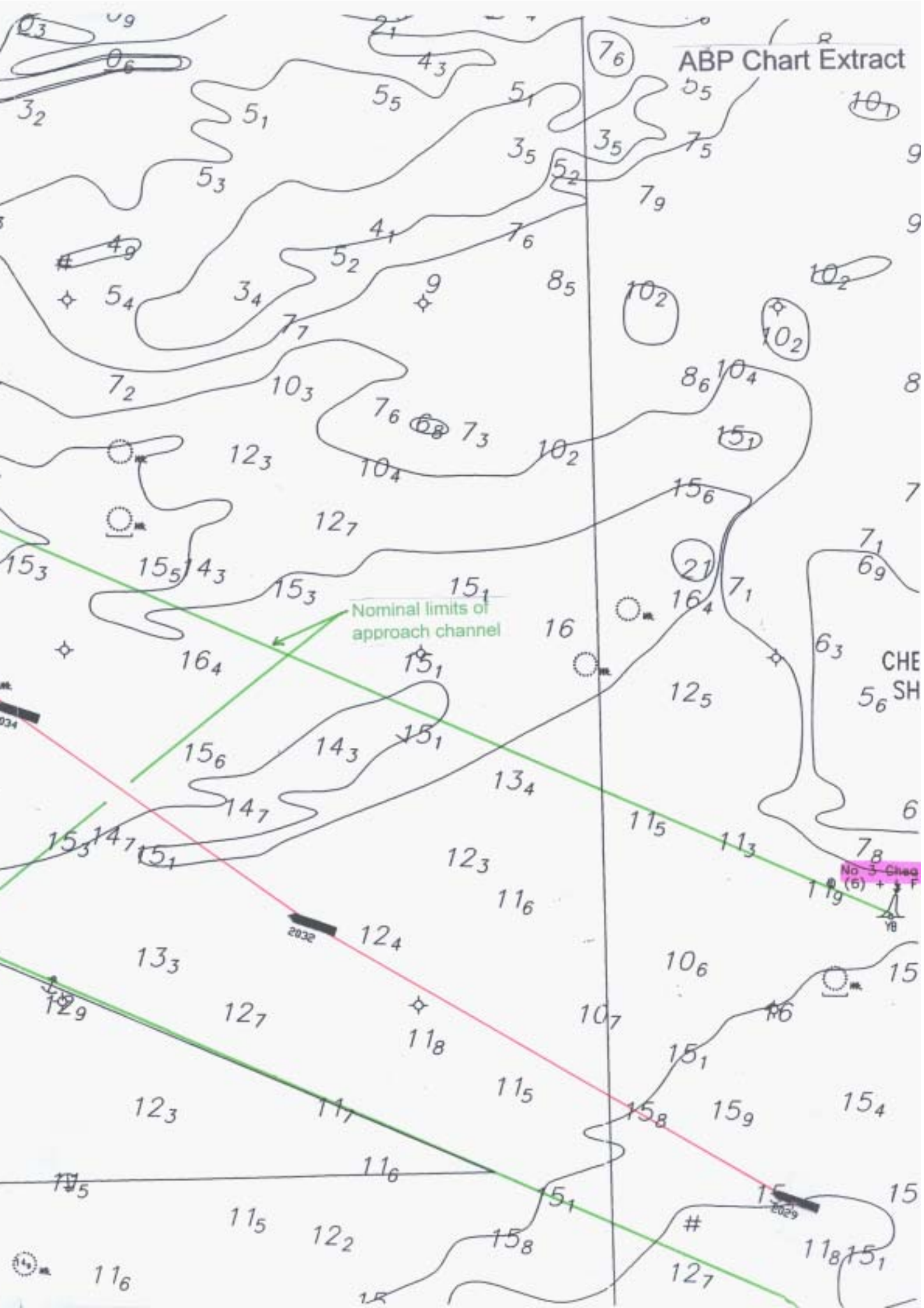
Octogon 3 passed 5.8 cables to the south of Chequer No 3 buoy and altered course to 295°. She was well to the south, or port side, of the channel as she did so. She was on course by 2029 and making good 16.4 knots with the first of two outbound ferries fine on her port bow. She passed the first at 2033 and the second at 2039. At 2036 the pilot launch *Rover* instructed *Octogon 3* to change to VHF radio channel 13 and, shortly afterwards, to reduce speed to dead slow ahead to enable the pilot to embark. Throughout the time she was on a heading of 295° wind and tide had been setting her steadily to starboard and her course made over the ground was 308° **(see chart over leaf)**.

As speed was reduced the master realised he was being set down too close to Binks No 3A buoy on his starboard bow and altered course 7° to port to 288°. He cleared the buoy at a range of 1.2 cables while making good 9.3 knots but this new heading was insufficient to prevent *Octogon 3* drifting to starboard.

The pilot boarded at 2039 but as the launch pulled away, her coxswain asked *Octogon 3* for her ship's head since it appeared she was getting too close to Spurn Head, which was now only 5 cables away on her starboard bow. The master replied that, because he had been told to reduce speed, he had come too close to Binks No 3A buoy but was now heading more to port. The engines were put to full ahead.

As soon as the pilot reached the bridge he realised *Octogon 3* was very close to Spurn Head, was informed the ship's head was 301° and immediately ordered hard-a-port. However, the drift to starboard continued and the vessel


Coastguard &
Pilot Station Tr.
Fl G 3s 11m 5Mi
Fl G 3s 11m 5Mi
2041
2040
2039
2038
2037
2036
No 3A Bnks
Fl G 4s
FAST JEF
2044
BULL
ANCHORAGE


ABP Chart Extract
Nominal limits of approach channel
2032
2029
CHE
SH

grounded on Spurn Head about 2 cables south-east of the beacon marking the seaward end at 2041.

Various engine movements were made in an attempt to refloat the ship. They were unsuccessful.

1.3 THE REFLOATING OPERATION

As the ebb tide fell away, the ship developed a port list of three degrees due to the contour of the bank. The chief engineer took soundings of all fuel and ballast tanks and found no ingress of sea water. Soundings were then taken every hour thereafter.

At low water, a harbour launch took soundings around the ship and up to 50m away from her. Reduced to chart datum, the launch measured a depth of three metres forward of the ship and eight metres aft. This information was relayed to the tug *Lady Kathleen*, which had been designated by the Humber harbour master to assist the casualty. After low water, it was intended to make the tug fast aft to prevent the stern of the ship from setting further up the bank with the rising flood tide. However, with the swell conditions and the draught of the tug, she was unable to make her approach to the ship at that time.

At about 0545 the height of tide was approaching the draught of the ship. There was 6.1m of water around the stern, 5.4m amidships and the forepart was still aground. The engines were started and astern movements were made to free the ship. *Lady Kathleen* was made fast at 0627 and various engine movements were continued. At about 0634 the ship began to move off the bank. Once clear, the tug was let go and *Octogon 3* made her own way to Hull unassisted and without further incident.

Later that day, a diver's bottom inspection of the hull found no new damage.

1.4 ENVIRONMENTAL CONDITIONS

1.4.1 The weather

The wind was south-westerly force 6/8; there were rain showers, during which visibility was restricted, and the sea and swell states were moderate.

1.4.2 The tide

Predicted high water at Spurn Head was at 1833 on 22 October with a height of 6.8m. The following low water was at 0047 on 23 October with a height of 1.5m, and the next high water was at 0615 with a height of 6.6m. During the incident the tide gauge gave the actual height of tide to be 6cm above predicted.

The tides were at springs.

1.4.3 Tidal streams

At the outer approaches to the River Humber, the direction of the south-running coastal tidal streams becomes more west and that of the north-running streams more east. Four miles to the east of Spurn Head, the in-running spring rate is 2.5 knots and the out-running rate is 3.5 knots.

Between Chequer Shoal and Spurn Head the tidal streams run strongly in the direction of the channel. However, for the first two hours after high water the tidal stream has a north-easterly component, which is across the channel at over 2 knots. This was the case at the time of the incident (**see extract from the Admiralty Tidal Stream Atlas opposite**).

1.5 HUMBER PILOTAGE

1.5.1 VTS

Pilotage in the River Humber, and out to sea as far as the harbour limits, is under a VTS scheme, in which a full radar surveillance is maintained for the control of shipping. Humber Pilotage Control and the VTS are combined in a single centre on the Spurn peninsula. The centre organises all marine functions, including pilotage requirements.

In the *IMO Guidelines for Vessel Traffic Services (Resolution A.857(20) - adopted on 27 November 1997)* a number of objectives was stated, of which the following extract is relevant to this incident:

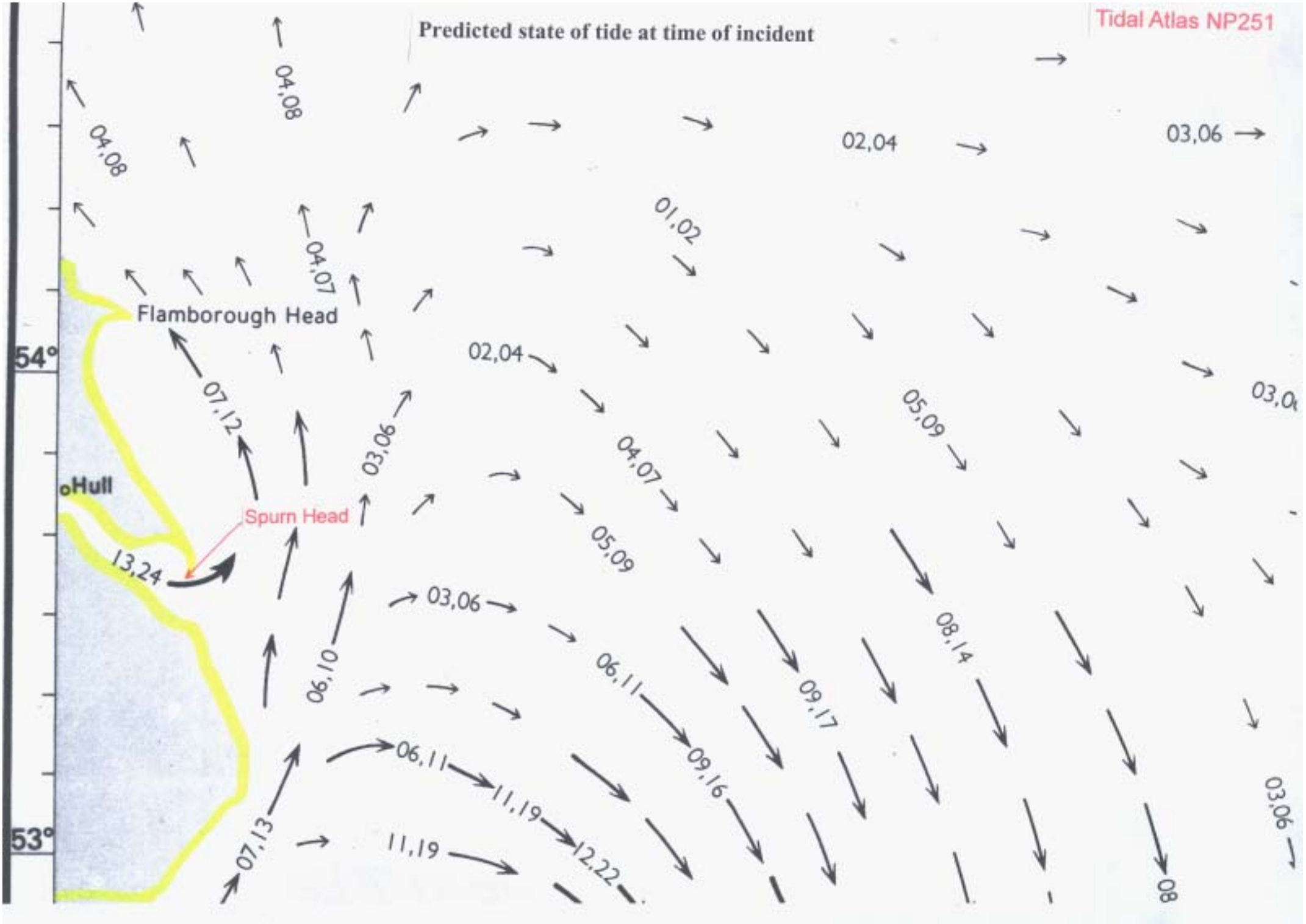
> *"The quality of accident prevention measures will depend on the system's capability of detecting a developing dangerous situation and on the ability to give timely warning of such dangers."*

In the section dealing with services to be rendered, the following is relevant:

> *"When the VTS is authorised to issue instructions to vessels these instructions should be result-orientated only, leaving the details of execution, such as course to be steered or engine manoeuvres to be executed, to the master or pilot on board the vessel. Care should be taken that VTS operations do not encroach upon the master's responsibility for safe navigation, or disturb the traditional relationship between master and pilot."*

1.5.2 Pilot boarding area

For vessels exceeding 40,000 deadweight or over 11m in draught, the pilot boards east of the Humber light-buoy. For smaller vessels the boarding area is in the vicinity of the Spurn light-float. In bad weather the pilot will advise on alternative boarding points, which are generally to the west of the Spurn light-float.


Predicted state of tide at time of incident
Tidal Atlas NP251
Flamborough Head
Hull
Spurn Head
54°
53°
04,08
04,08
04,08
04,07
01,02
02,04
03,06
02,04
07,12
03,06
04,07
05,09
05,09
03,06
08,14
06,10
06,11
09,17
09,16
06,11
11,19
12,22
07,13
11,19
13,24

All inbound vessels must contact VTS Humber two hours before arrival at the Spurn light-float; then five miles from the Spurn light-float and then while passing Spurn light-float itself. At the latter position, the radar echo of a ship approaching the Humber will be identified and tagged by a VTS operator.

1.5.3 Directions

Regulations affecting entry to the river come under Humber Navigational Byelaws and apply from the Spurn light-float throughout the River Humber, the River Trent to Gainsborough and the River Ouse to Goole. In the byelaws the following is relevant to this incident:

> *Masters are to ensure that the vessel does not cross the fairway in such a manner as to cause inconvenience or danger to other vessels.*

The direction for the approach to the River Humber from close south of the Spurn light-float to Chequer No 3 buoy is 260°, which is the line of bearing of Haile Sand Fort. From south of Chequer No 3 buoy to Spurn Head the course to take is west-north-west or about 295°.

While the Admiralty charts do not show a designated traffic lane for the approaches to the Humber, the VTS computer radar print-outs (**see annexe**) do show a nominal traffic lane (**see also ABP chart extract**). The northern boundary is drawn through the Chequer No 3 buoy, the Binks No 3A buoy and to the southern edge of the drying height contour to the south of Spurn Head. The southern boundary runs along the north-eastern side of the Bull anchorage and then to the Bull light-float. The lane is 7 cables wide. It does not have any traffic separation between outbound vessels and those inbound.

1.6 THE MASTER AND HIS CREW

Octogon 3's master was 42 years old. He began his nautical career in the early seventies by attending a Romanian marine university for four years, during which he spent one year at sea as a cadet. He was granted his third officer's licence in 1979; his second officer's licence in 1980 and his chief officer's licence in 1986. He was granted his Romanian master's licence in January 1991, which was last revalidated in May 1997. He had a pilot's exemption certificate for Ramsgate. He had served on *Octogon 3* since 1991.

The ship had only recently been chartered by East Coast Ferries for the Dunkerque/Hull/Dunkerque run. After a three day hand-over, the master assumed command of the ship on 18 October 1998, and had undertaken three voyages between the two ports up to the time of the accident. He did not have the necessary experience to qualify for a River Humber pilot's exemption certificate.

There were 25 crew members on board, all of whom were Romanian nationals. The manning level complied with the Romanian Manning Certificate. The crew complement consisted of the master, three navigating officers, four engineers,

two electricians, a radio officer, six deck ratings, five engine room ratings a cook and two stewards.

1.7 NAVIGATIONAL METHODS AND PASSAGE PLANNING ON *OCTOGON 3*

The ship had two radars - a Racal Decca BT501 sited on the port side of the bridge and a Kelvin Hughes 1700R on the starboard side (**see photograph overleaf**). Both radars had ARPA capabilities. There was a GPS Shipmate RS5700 and two echo sounders. The chart room was aft of the wheelhouse but there was a plotting table behind and close to the starboard radar. There were gyro repeater compasses, with azimuth mirrors, on each bridge wing.

The ship's working chart, for the outer approaches to the Humber, showed one course line to the Humber light-float with a number of positions plotted, the last of which was at 2000. There were no more course lines or positions for the pilotage waters. There was no written passage plan nor had any illustrations/notes, to reflect a plan, been drawn on any of the charts.

Once in pilotage waters, the master took charge of the navigation of the ship. The chief and third officers, with a helmsman, were on the bridge to assist the master. However, the helmsman was dispatched to attend to the pilot ladder and the chief officer took over the wheel. The master navigated the ship by eye, using the port radar and judging navigational marks by sight to make decisions on courses to steer. The third officer was using the starboard radar to give the master distances and bearings of navigational marks. The master acknowledged and verified the information given to him by his officer.

This was the third occasion which *Octogon 3*'s officers had made an approach to the River Humber. None of them had received bridge teamwork training.

A card giving the ship's particulars was available but was not given to the pilot when he arrived on the bridge. There was a poster giving the ship's manoeuvring characteristics at the rear of wheelhouse.

The International Chamber of Shipping's *Bridge Procedures Guide* states that passage planning is necessary to support the bridge team and to ensure that the ship can be navigated safely between ports from berth to berth. It further recommends that a preliminary plan should be prepared covering pilotage waters and the roles of the bridge team personnel and include contingency measures in the event of changes in circumstances.

The Maritime and Coastguard Agency's *Marine Guidance Note MGN 72 (M+F)* draws attention to the need for systematic planning of all stages of a voyage.

Octogon 3 - **Bridge Layout**

1.8 PROPOSED ACTIONS BY THE HUMBER HARBOUR MASTER

1.8.1 Actions already taken

The instructions and procedures for heavy weather boarding have been reviewed. In practical terms, this means that this type of high-sided vessel will not be boarded in the area between the Binks No 3A buoy and Spurn Head but further to the east where there is more sea room. Advice given to individual vessels to be embarked or disembarked has been reviewed.

1.8.2 Short term measures

The viability of establishing an additional buoy off Spurn Head will be investigated.

1.8.3 Long term considerations

The establishment of traffic separation lanes in the approaches to the river will be considered. It is hoped that this would lead to better control of inbound and outbound vessels. The whole of the approach buoyage system is to be reviewed.

SECTION 2 - ANALYSIS

2.1 PASSAGE PLANNING

Octogon 3's passage plan for the voyage from Dunkerque to Hull stopped at the point where the Humber pilot was expected to embark. There was no passage plan for the river passage from Spurn light-float to King George Dock entrance on the assumption that the pilot could be relied on to navigate the vessel safely. Such an assumption presumes there was no requirement to provide for the situation where, for any reason, the services of the pilot would be unavailable such as a delayed embarkation due to bad weather.

Berth to berth passage planning is a function of safe navigation. In *Octogon 3* it was not thought necessary and this omission was examined to establish whether it contributed to the grounding.

Pilotage passage plans serve two basic functions; to provide a ship's master and the pilot with a double check on a vessel's safe passage and to provide a ready prepared plan should the pilot be unable to carry out his duties. An effective plan with courses to be steered needs to be drawn on the overall passage chart and individual large scale charts, or worked up on an electronic chart. Shoal water and dangers relevant to the vessel's manoeuvring characteristics and draught should be clearly marked, transits identified, clearing bearings worked up and parallel indexes calculated. The officer responsible for navigation should also predict tidal rates and directions to cover the time underway in pilotage waters. Although in an ideal world such a plan would precisely match that of the pilot, it is likely that in practical terms there will be differences. What should not be in dispute is a means of identifying any action that might jeopardise the safety of the ship.

None of this was done. The failure to have any form of pilotage passage plan was a contributory factor in the cause of the grounding.

When the master unexpectedly found himself having to navigate in waters without a pilot or anything prepared on the chart he was forced to conduct his navigation by time-honoured procedures using basic techniques and skills. The investigation examined these to judge their effectiveness.

2.2 PASSAGE MONITORING

Passage monitoring involves two components; knowing where you are and where you are going.

The last fix plotted on the chart was at 2000, nearly half-an-hour before *Octogon 3* passed Spurn light-float. Thereafter, navigation was conducted by the master by eye from the port radar, with the third officer providing supplementary information from the starboard radar. None of the information from either the radars, visual or GPS was plotted on the chart. There is no

record of precisely what information the third officer passed the master but it did not alert the master to impending danger.

This failure to use his bridge team effectively to provide safe navigation information was a contributory cause of the subsequent grounding.

None of the officers had received bridge teamwork training and its lack was another contributory cause of the grounding.

At no time was a proper appraisal made of the actual leeway being experienced or anticipated.

The master's only recognition that he might have to offset a drift to starboard was to place himself on the windward, or port side, of the 295° approach channel as he ran up to the Spurn to embark the pilot. By doing so he placed himself in the path of outbound traffic, and the first of two ferries moved outside the channel as she proceeded to seaward. Not only was this a demonstration of bad seamanship but it also contravened Rule 9 of the *International Regulations for Preventing Collisions at Sea* that

> *"A vessel proceeding along the course of a narrow channel or fairway shall keep as near to the outer limit of the channel or fairway which lies on the starboard side as is safe and practicable."*

Had the master made a calculated allowance for leeway, and monitored his actual position more effectively, he could have stayed safely on the starboard side of the channel from the outset.

The River Humber is among the busiest waterways in the country with inbound and outbound traffic taking place simultaneously. There were no designated traffic lanes in the approaches to the river and, although the channel is relatively narrow, there is merit in considering such a scheme.

By not using his bridge team effectively, the master was totally dependent on his eye and whatever interpretation he made of the radar picture in front of him. Throughout the approach to the pilot embarkation point, visibility was sufficiently good for him to see the Spurn Head beacon on his starboard bow. Spurn Head was also painting on his radar. He had, therefore, a double opportunity to check the set and drift by taking true bearings and ranges of the beacon of the Head. Because the bridge did not have a centreline pelorus this would not have been straightforward and he did not seek assistance from the third officer. The only compass repeaters were on the bridge wings. Radar bearings will be invariably slightly inaccurate but, had he constantly monitored the radar bearing and range from the moment he altered course to 295° he would have been able to readily determine the anticipated set and drift.

Analysis of the VTS radar tapes and the courses steered by the ship, show that from 2029 until picking up the pilot, *Octogon 3* was closing Spurn Head on a steady bearing and unless something was done to offset the drift, grounding

was inevitable Had this very basic information, clearly available to him throughout, been interpreted correctly the master would have had every opportunity to make an allowance for the drift. It required an early and substantial alteration of course to port to offset the drift to starboard particularly in view of the probability that he would have to reduce speed to embark the pilot The grounding would have been averted. He did not do so.

2.3 THE CONDUCT OF THE MASTER

The master's lack of appreciation of the prevailing rate of drift was a major cause of the vessel grounding.

The investigation attempted to identify why a fully qualified and experienced master, who held a PEC in one other United Kingdom port (Ramsgate), should overlook such an obvious indicator.

There is nothing to suggest the master was tired, under the influence of alcohol or medication. It was a dark night with variable visibility but this was well within his experience and should not have taxed him unduly.

The failure to have any passage plan prepared indicates that *Octogon 3*'s master was mentally geared to handing over the navigation to the pilot. Consequently it is likely that he was distracted from monitoring the drift by his desire to embark the pilot as soon as practicable.

The course alteration he made to avoid Binks No 3A buoy, a modest 7° to port, was not only inadequate but demonstrated that he had underestimated the rate of drift.

2.4 PILOT EMBARKATION

The normal pilot embarkation point for inbound vessels of *Octogon 3*'s size is in the vicinity of the Spurn light-float. In bad weather alternative positions, invariably further west, are designated.

It is a curious paradox of many pilotage stations throughout the world that in bad weather, pilots embark closer inshore than normal and require ship masters to navigate their vessels in less favourable circumstances than would otherwise be the case. Logic would dictate that the reverse arrangement should apply.

Although a competent master should have relatively little difficulty manoeuvring a vessel in such a position, there are potential difficulties in creating a lee in such confined waters. The risks involved in embarking a pilot at this point in bad weather are significantly higher, especially when the spring tide is ebbing.

Octogon 3 was required to slow down and pick up a pilot in confined waters, with strong south-west winds blowing and the spring tide ebbing. This was a contributory cause of the grounding. The decision made by VTS to move the

boarding area to between Chequer No 3 and Binks No 3A buoys was based upon the fact that the pilot launch had insufficient speed to meet *Octogon 3* at the normal embarkation point with the latter vessel continuing to approach at her current speed. In deciding to move the boarding area, rather than to request *Octogon 3* to reduce speed and wait for the pilot launch in the vicinity of the Spurn light-float, it is possible that the limited ability of the pilot launch to embark pilots safely in bad weather was also a consideration in this case.

When for any reason it is impractical to embark pilots at the designated pilot station, the alternative must, at the very least, be no less safe. It might be necessary for the master to bring his ship into more sheltered water further up river. The decision to do so is based on the expectation, and reasonable assumption, that the master is competent to execute the necessary pilotage safely to achieve this.

The alternative to changing the embarkation point is to have a type of pilot launch capable of operating in bad weather.

Humber harbour authorities should decide which of these two solutions, or perhaps both, is most appropriate to meet the requirement.

2.5 VTS

Octogon 3 was clearly visible on the VTS radar. Good two-way VHF radio communications between the ship and VTS had been established and was being carried out normally. Had any of the VTS operators been looking out of the windows of the VTS station, they would have seen *Octogon 3*'s navigation lights. Given such facilities the investigation looked to see whether there was anything the VTS could have done to prevent the grounding.

The safe navigation of the vessel lay with the master. This was clearly understood by everyone concerned.

The function of the VTS is, among other things, to advise masters of anything that might aid safety. Operators have no authority to give directions but they are encouraged to draw attention to anything that might cause concern. This can be done in a variety of ways such as asking a question about, say, the ship's head. This technique was demonstrated by the pilot boat coxswain in the minute preceding the grounding. The weakness of the system is that it relies on the recipient of the transmission recognising or understanding what underlies the question.

There was no obligation on VTS Humber to specifically monitor *Octogon 3*'s progress and the operators may, very legitimately, have been focusing their attention on other matters. Apart from the pilot boat's coxswain's warning at 2039 that the vessel was "a bit close to Spurn Head", there was no other transmission from VTS to *Octogon 3* to indicate concern about her position or track.

Such a situation taxes many harbour authorities; what is the role of VTS in such circumstances? Some clear indication of concern should be passed if the VTS operator is at all worried about the vessel's safety. This could, for instance, be a factual statement of what he observes on radar. The difficult part is determining whether the operator is looking, or should be looking, at the radar display at the developing situation to the exclusion of everything else. Existing guidance to VTS operators is singularly unclear on this point.

There are certain situations when the senior VTS operator on watch should raise the alert status on a particular vessel during a period, measured either by time or when transiting through a designated area, when increased vigilance is appropriate. Harbour authorities are best placed to judge the circumstances and how it might be achieved in practical terms but three examples of the type of situation envisaged are offered. It could involve two vessels meeting end on or nearly end on in a fog bank, or a vessel constrained by her draught when manoeuvring in particularly confined waters, or when an inbound vessel is unable to pick up her pilot at the designated embarkation point and is having to navigate in waters with which the master is unfamiliar.

SECTION 3 CONCLUSIONS

3.1 FINDINGS

1. *Octogon 3* was well found and manned in accordance with her Romanian Manning Certificate. Her master held a Romanian master's licence

2. The accident occurred on the master's third visit to the River Humber.

3. The weather at the time of the accident was a south-west wind of force 6-8, with restricted visibility in rain showers and moderate seas.

4. *Octogon 3* did not embark a pilot at the expected pilot boarding point but was instructed to proceed further up the channel to pick him up between Chequer No 3 buoy and Binks No 3A buoy.

5. The bridge was initially manned by the master, chief officer, third officer and helmsman.

6. The master had charge of the navigation of the ship in the period leading up to the accident.

7. All navigation equipment, and the steering, was functioning correctly.

8. No pilotage passage plan had been prepared.

9. No fixes were plotted on the chart during the 41 minutes preceding the accident.

10. The echo sounder was not being used.

11. The master navigated by eye, supplemented by information from the radar.

12. On rounding Chequer No 3 buoy, the master placed his vessel on the south, or port, side of the approach channel and in the path of an outbound ferry.

13. Nobody on board appeared to realise that the vessel was being set sufficiently far to starboard to require early and substantial remedial measures.

14. The Spurn Head light-beacon was visible throughout the approach and its true bearing from *Octogon 3* remained virtually steady during the 12 minutes prior to the grounding.

15. *Octogon 3* was held on the VTS radar throughout the approach phase.

16. *Octogon 3* was in two-way VHF radio communication with VTS Humber throughout the approach phase and all normal traffic was passed satisfactorily.

17. At no time did VTS Humber warn *Octogon 3* that she was on the port, or south, side of the channel or that her projected track was taking her too close to the northern edge of the channel.

18. The pilot vessel requested *Octogon 3* to slow down when she was just under a mile from Spurn Head and on the downwind side of the channel.

19. The pilot boat coxswain warned *Octogon 3* that she was "a bit close to Spurn Head" at 2040, about one minute before she grounded.

20. The pilot did not have time to prevent the grounding after he arrived on the bridge.

21. *Octogon 3* grounded in a position about two cables south-east of Spurn Point at 2041.

22. The vessel remained aground until she was refloated at 0634 on 23 October with the assistance of the tug *Lady Kathleen*.

23. Nobody was injured, there was no pollution and the resultant damage was slight.

3.2 CAUSE

The grounding was caused by the selection of course 295° on board *Octogon 3* and thereafter making no allowance for either wind or tide so that she was progressively set to starboard until such time that she grounded.

3.3 CONTRIBUTORY CAUSES

1. The failure to have any form of pilotage passage plan.

2. The failure to use the bridge team effectively to provide safe navigational information.

3. The lack of any bridge teamwork training for the navigating officers.

4. The requirement for *Octogon 3* to pick up a pilot between Chequer No 3 and Binks No 3A buoys and to slow down in confined waters, with strong south-west winds blowing and the spring tide ebbing.

5. The master's lack of appreciation of the rate of drift.

6. The sea-keeping qualities of the pilot launch were such that it was not capable of embarking safely pilots on board ships at the designated boarding position in bad weather.

7. The absence of any warning from VTS Humber about *Octogon 3*'s position and track.

SECTION 4 - RECOMMENDATIONS

Octogon Shipping and Services is recommended to:

1. introduce bridge teamwork training for all its navigating officers; and

2. ensure that all its ships produce a systematic passage plan from berth to berth for all voyages

ABP Humber is recommended to:

1. consider introducing the implementation of designated traffic lanes for the approaches to the River Humber within the limits of its jurisdiction;

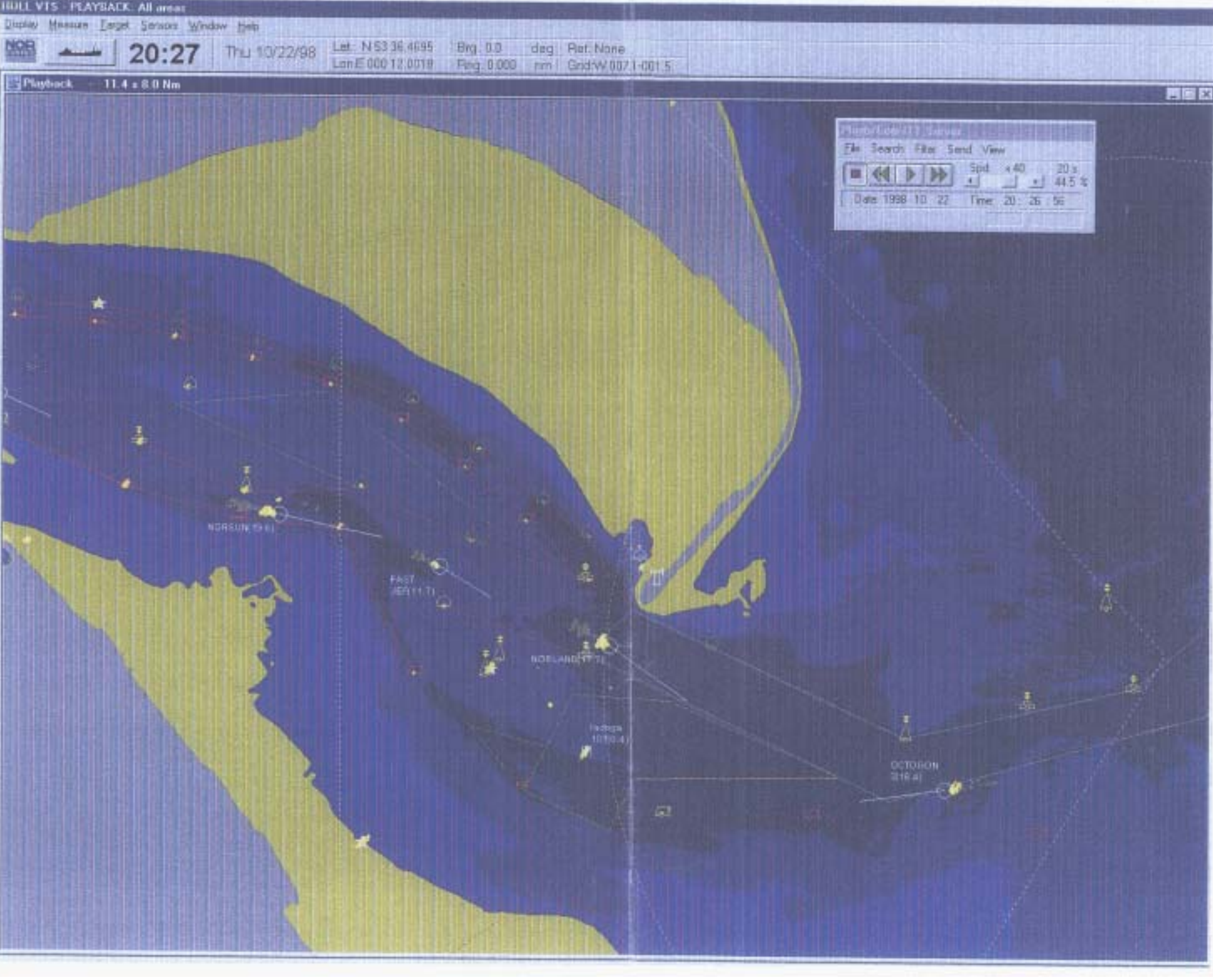
2. investigate alternative types of pilot launches and consider their all-weather suitability for pilotage operations to seaward of the River Humber; and

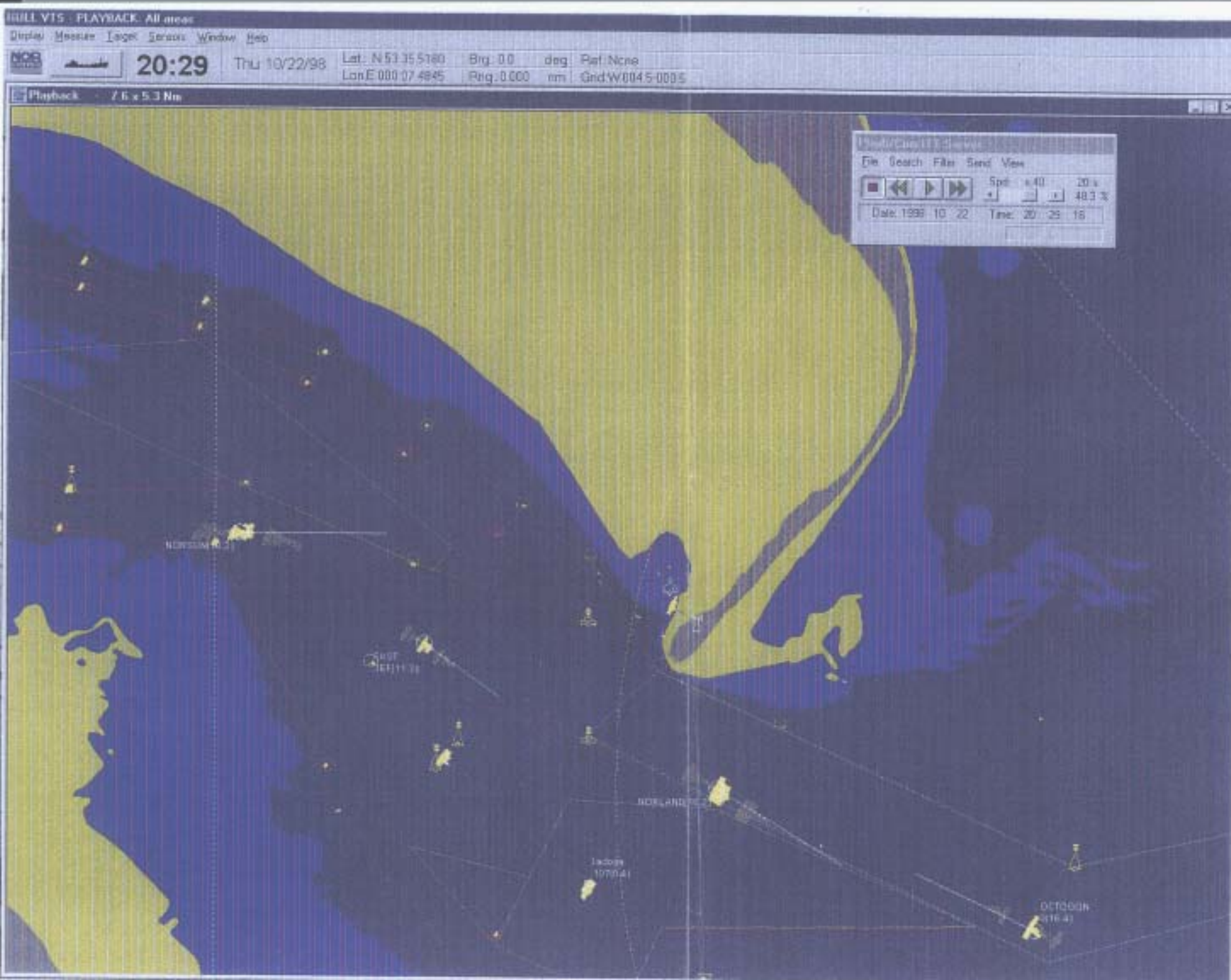
3. encourage VTS operators to be more proactive, under the guidance of IMO Resolution A.857(20), to provide timely warnings to vessels acting in an unsafe manner.

Marine Accident Investigation Branch
September 1999

Annexe

VTS radar print-outs


HULL VTS - PLAYBACK: All areas
Display Measure Target Sensors Window Help
20:27
Thu 10/22/98
Playback 11.4 x 8.0 Nm
File Search Filter Send View
Date 1998 10 22
Time 20 : 26 : 56
NORSUN
EAST
OCTODON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Playback
7.6 x 5.3 Nm
File Search Filter Send View
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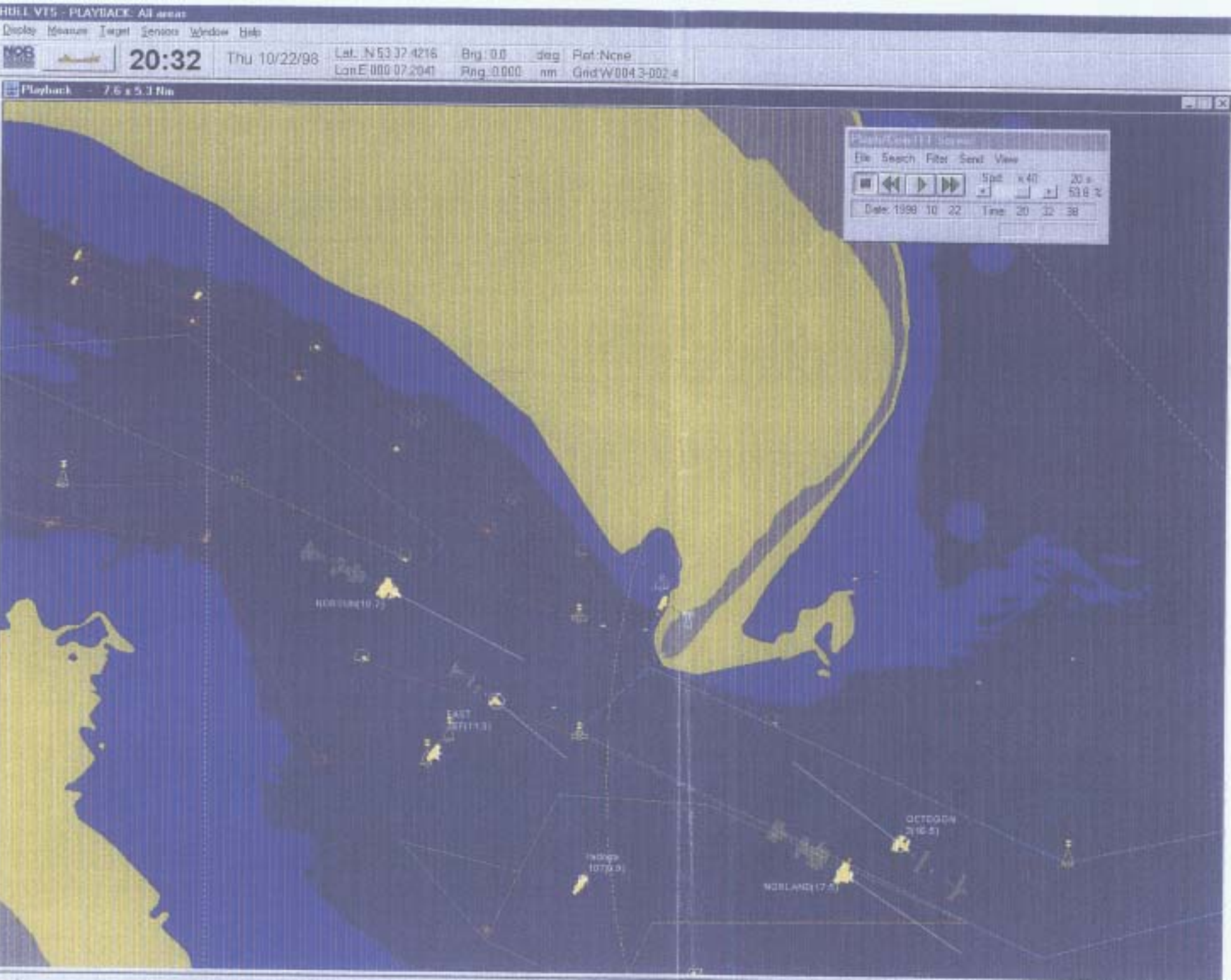
Time: 20 25 16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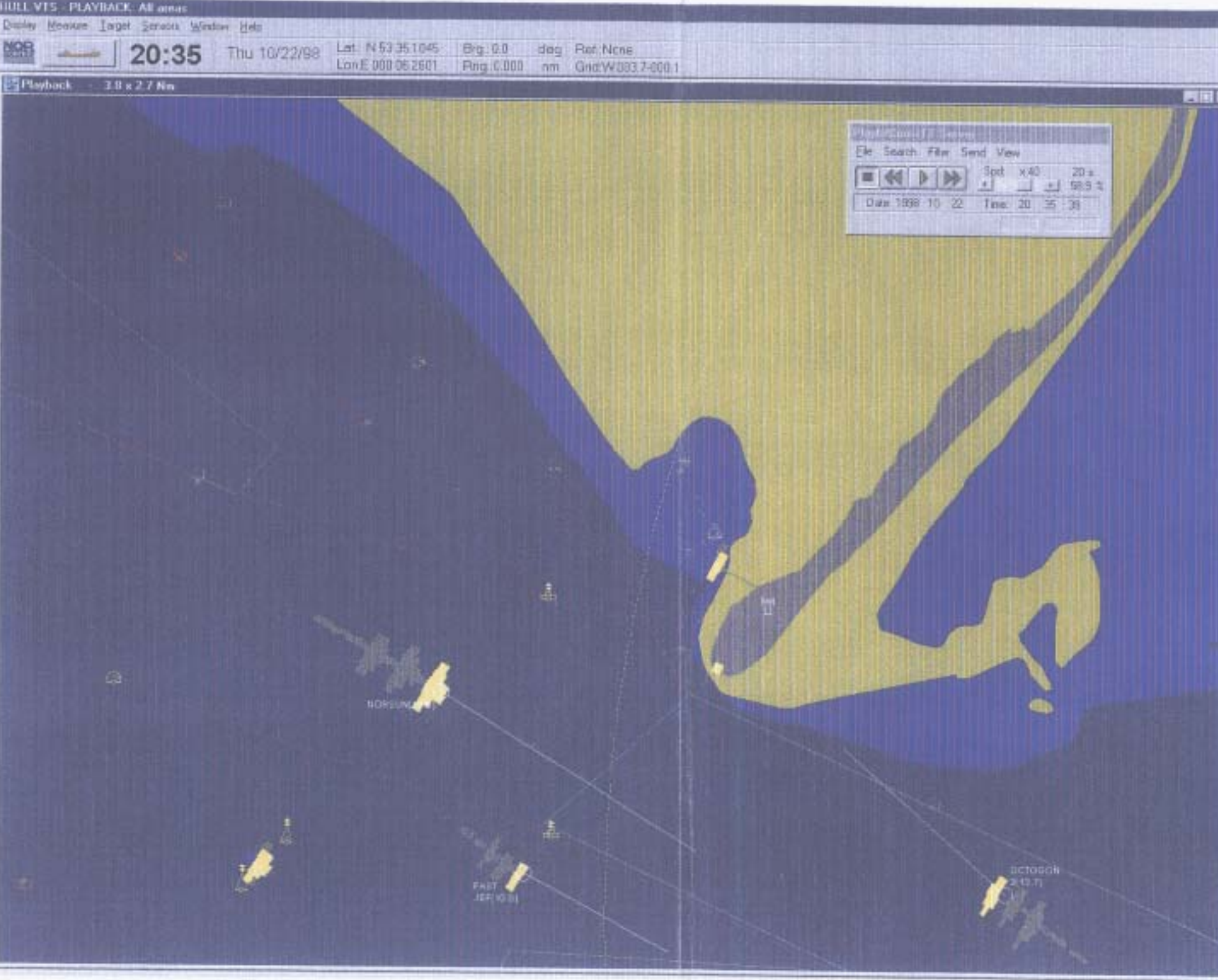
20:32
Thu 10/22/98
Lat: N 53 37.4216
Lon: E 000 07.2041
Brg: 0.0 deg
Rng: 0.000 nm
Plot: None
Grid: W 004 3-002.4
Playback - 7.6 x 5.3 Nm
File Search Filter Send View
Date: 1998 10 22
Time: 20 32 38
OCTAGON
NORLAND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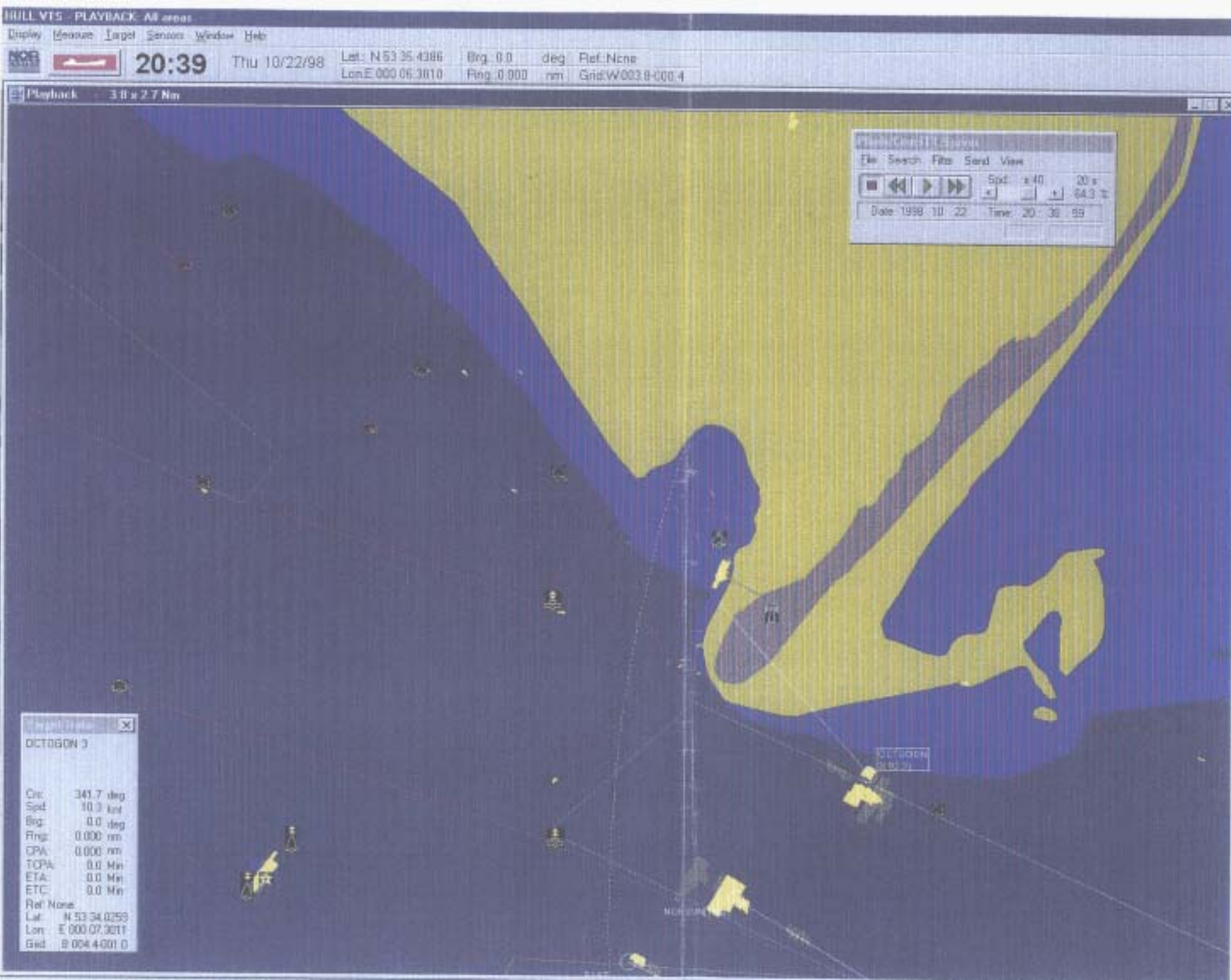
Thu 10/22/98
Lat N 53 35.1045
Lon E 000 06.2601
Brg 0.0 deg
Rng 0.000 nm
Ref None
Grid W 003.7-000.1
Playback - 3.8 x 2.7 Nm
File Search Filter Send View
Spot x40 20 s
Date 1998 10 22 Time 20 35 38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Rng: 0.000 nm
Ref: None
Grid: W003.8-000.4
Playback 3.8 x 2.7 Nm
File Search Filter Send View
Spd: x 40
20 s
64.3 %
Date: 1998 10 22
Time: 20 : 38 : 59
OCTOGON 3
Crs: 341.7 deg
Spd: 10.3 kts
Brg: 0.0 deg
Rng: 0.000 nm
CPA: 0.000 nm
TCPA: 0.0 Min
ETA: 0.0 Min
ETC: 0.0 Min
Ref: None
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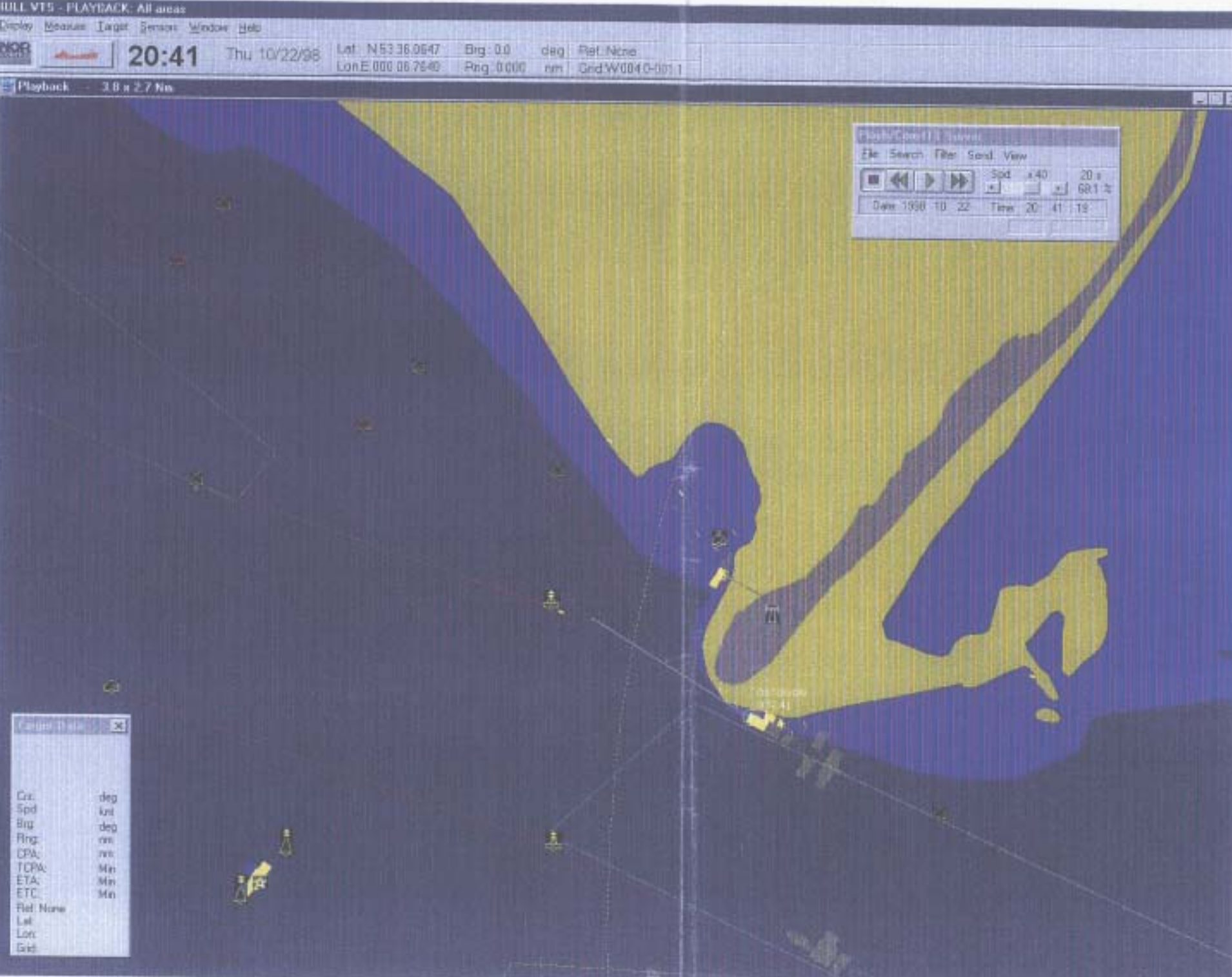
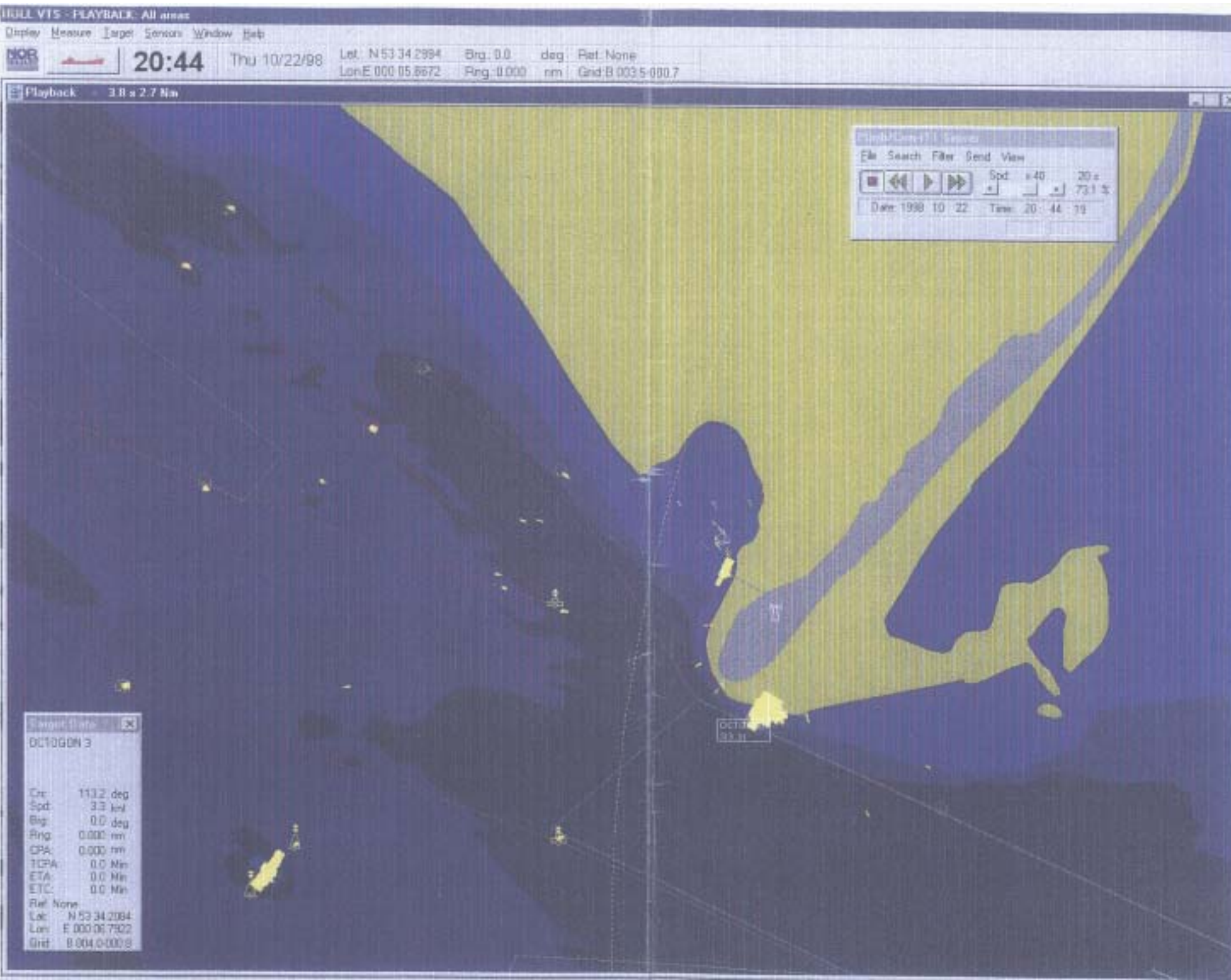
Lon: E 000 07.3011
Grid: E 004 4-001 0


BULL VTS - PLAYBACK: All areas
Display Measure Target Sensors Window Help
20:41
Thu 10/22/98
Playback - 3.8 x 2.7 Nm
File Search Filter Send View
Spd x40
Date 1998 10 22
Time 20 41 19
Cse deg
Spd knt
Brg deg
Rng nm
CPA nm
TCPA Min
ETA Min
ETC Min
Ref None
Lat
Lon
Grid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Rng: 0.000
deg
nm
Ref: None
Grid: B 003.5-000.7
Playback - 3.8 x 2.7 Nm
File Search Filter Send View
Spd: x40
20 s
73.1 %
Date: 1998 10 22
Time: 20 44 19
OCTOGON 3
Crs: 113.2 deg
Spd: 3.3 kn
Brg: 0.0 deg
Rng: 0.000 nm
CPA: 0.000 nm
TCPA: 0.0 Min
ETA: 0.0 Min
ETC: 0.0 Min
Ref: None
Lat: N 53 34.2994
Lon: E 000 05.7922
Grid: B 004.0-000.9