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GROUNDING OF M.V. 'MOBIL ENDEAVOUR' IN THE
TORRES STRAIT OFF THE NORTH COAST OF AUSTRALIA
24 JULY 1986

INTRODUCTION

The Liberian flag tanker 'MOBIL ENDEAVOUR', fully loaded with petroleum products, grounded momentarily in the eastern approaches to the Torres Strait on 24 July 1986, whilst on passage from Singapore to Port Moresby.

The vessel suffered bottom damage in the grounding, however there was fortunately no pollution as a result. The vessel was able to continue her voyage to Port Moresby.

At the time of the incident, the vessel was proceeding without the services of a licensed pilot, despite a recommendation of the Maritime Safety Committee of the International Maritime Organization to the contrary.

The Maritime Safety Committee:

"RECOMMENDS that ships of 100 metres in length and over and all loaded oil tankers, chemical carriers or liquefied gas carriers, irrespective of size, use the pilotage services provided by the Queensland Coast and Torres Strait Pilot Service when navigating in the Torres Strait and inner route of the Great Barrier Reef area between Booby Island (latitude 10°36' south, longitude 141°54' east) and latitude 16°40' south or through the Great North East Channel, or Hydrographers Passage."

A Preliminary Investigation into the incident was conducted by Captain W.A. Chadwick, Chief, Investigation Division, Office of the Commissioner of Maritime Affairs, and published by the Republic of Liberia.

The Preliminary Investigation included Findings of Fact established by Captain D.N. Pritchard from Mobil Shipping Company Ltd.

The Federal Department of Transport Australia is grateful to the Republic of Liberia for permission to reproduce in full, in the interests of marine safety, the Report of the Preliminary Investigation and the Decision of the Commissioner of Maritime Affairs R.L. into the grounding of 'MOBIL ENDEAVOUR'.

CANBERRA

MARCH 1987



REPUBLIC OF LIBERIA
MINISTRY OF FINANCE
MONROVIA, LIBERIA

OFFICE OF THE COMMISSIONER
FOR MARITIME AFFAIRS

Decision of the Commissioner of Maritime Affairs, R.L.
In the Matter of the Grounding of the
Motor Tanker MOBIL ENDEAVOUR (O.N. 7139)
In the Torres Strait off the
North Coast, Australia
On 24 July 1986

AUTHORITY

This Decision is rendered pursuant to the provisions of Sections 11, 18 and 258 of the Liberian Maritime Law and Liberian Maritime Regulation 9.258(7).

COMMENT

The motor tanker MOBIL ENDEAVOUR (O.N. 7139) contacted the rocky outcrops from the Alert Patches, Prince of Wales Channel, Torres Strait, off the North Coast of Australia on 24 July 1986, while fully loaded en route to Port Moresby.

Fortuitously, there was no pollution even though the forepeak and No. 1 Port double bottom tanks were flooded, which brought the tanker down by the head.

This is another example of a transit that could have been safely navigated if a Torres Strait Pilot had been employed as recommended by the International Maritime Organization (IMO) Marine [Maritime] Safety Committee Circular 430. This incident could also have been avoided had the Master complied with the policies and guidance of the operators Mobil Shipping Company Ltd.

The Master committed a fundamental error of judgment when he ignored a proper passage plan provided by his Navigator, and elected to navigate to the north of "East" buoy on a course of 090° True in the west bound lane of a Two Way Route, to pass over an area with rocky outcrops of the Alert Patches and soundings of 11 meters. The Chief Mate and the Deck Watch Officer both are to be congratulated for questioning the Master's decision to pass to the north of "East" buoy. Unfortunately their concern was not sufficiently emphatic to cause the Master to alter his plan. Perhaps if the Chief Mate or the Deck Watch Officer had computed the tanker's squat then the Master might have been encouraged to avoid an area of charted shallow water.

The Master must accept, as he has, the full blame for this grounding. A Pilot would not have been intimidated by the Master, as his own officers might have been. The Pilot would have insisted that MOBIL ENOEAVOUR pass to the South of "East" buoy.

The entire record of this Preliminary Investigation having been reviewed, the undersigned takes the following action with respect to the Report of Preliminary Investigation and to its Findings of Fact, Conclusions, and Recommendations.

ACTION

1. The Report of Preliminary Investigation is hereby adopted as to its Findings, Conclusions, and Recommendations.
2. It is directed that this Decision be published together with the Report of Preliminary Investigation and its Annex.

3. Captain Anthony C. Barretto, is to have his Liberian License of Competence No. 313136 in the Grade of Master, suspended for a period of six months. The suspension will commence concurrently from the time that he is suspended by Mobil Shipping Company Ltd. from all duties without pay. During this period of suspension, Captain Barretto is offered the opportunity to apply for a license in the grade of Chief Mate.

4. Operators and Masters are encouraged to give due consideration to the IMO proposed Resolution on the use of pilotage services in the Torres Strait and the Great Barrier Reef area. A copy of IMO proposed Resolution MSC/Circ.430 is appended to this Decision. [Appendix 2].

5. In light of the importance of this Report to the quest for improved safety of life and property at sea, and to minimize the risk of Pollution of ecologically sensitive areas off the Australian coast, the undersigned will offer sufficient copies of this Decision and Report to be distributed to all Member States at the next Session of the IMO Marine [Maritime] Safety Committee in London.

6. As a matter of comity, the undersigned will cause a copy of this Decision and Report to be officially transmitted to the government of Australia.

Done at Monrovia, Montserrado County, Republic of Liberia
This 22nd Day of January 1987.

[ORIGINAL SIGNED]
GEORGE B. COOPER
COMMISSIONER OF MARITIME AFFAIRS, R.L.

Report of the Preliminary Investigation
In the Matter of the Grounding of the
M.S. MOBIL ENDEAVOUR (O.N. 7139)
In the Torres Strait off the
North Coast, Australia
on 24 July 1986

INTROOUCTION

The motor tanker MOBIL ENDEAVOUR (O.N. 7139) touched bottom at 2155 24 July 1986 while transitting the Torres Strait en route from Singapore to Port Moresby with a full cargo of petroleum products. The grounding occurred immediately north east of the "East" buoy to the south of Alert Patches, in position 10° 29. 85' South, 142° 21.15' East.

The forepeak and No 1 port double bottom tanks were opened to the sea; there was no damage to the cargo tanks and there was no pollution. The ship was not delayed, and she continued her voyage to Port Moresby.

AUTHORITY

A Preliminary Investigation into this casualty was ordered pursuant to Liberian Maritime Regulation 9.258(4). The Honorable Fred T. Lininger, Senior Deputy Commissioner of Maritime Affairs, R.L., appointed Captain W.A. Chadwick, Chief, Investigation Division as Investigation Officer to conduct this Preliminary Investigation.

Finding of Facts were established during an investigation conducted by Mobil Shipping Senior Port Captain D.N. Pritchard on board the MOBIL ENDEAVOUR while en route from Port Moresby to Bougainville from 28-31 July 1986.

PARTICULARS

MOBIL ENDEAVOUR (O.N. 7139) is owned and operated by Mobil Shipping & Transportation Company of Monrovia, Liberia. This motor tanker is 19,580 gross tons, 12,986 net tons, and 33,817 deadweight tons. She was constructed in 1982 at the Sumitomo Heavy Industries Ltd., Oppama Shipyard, Yokosuka, Japan. She is powered by a Sulzer 25A 6 cylinder 8,165 kW diesel. Her length overall is 171.00 (BB) meters, breadth extreme is 30.03 meters, and draught is 10.831 meters.

FINDINGS OF FACT

1. The passage of the Torres Strait was being made without a Torres Strait pilot.
2. The ship was in hand steering, the engine room was manned and the engine was under bridge control.
3. All necessary navigation equipment was in good order and was being operated. There was nil gyro error (estimated during the evening by 2 transits and 1 azimuth).

4. At the time of the incident visibility was clear, with a slight sea and swell and an Easterly breeze of 10-15 knots, and these conditions had prevailed all that evening.

5. There was no other traffic in the area.

6. The draft of the ship was Forward 11.6 metres, Aft 11.8 metres. The maximum draft had been reduced slightly on the morning of the 24th by shifting ballast. The previous draft was Forward 11.4 metres, Aft 11.95 metres.

7. The passage of the Torres Strait had been preplanned in considerable detail and the ship was proceeding in accordance with this plan. The plan included a considerable amount of tidal data which was presented in a graphical format with tidal curves being available for several key points of the passage.

8. The Master, Captain A.C. Barretto, was conning the ship. He had made several transits of the Torres Strait in 1983, both with and without a pilot.

9. Present on the bridge were the Deck Watch Officer Third Mate A.W. Divekar, and Chief Mate P.M. Kutar who had remained on the bridge after completing his watch at 2000 to observe the transit of the Torres Strait. Mr Kutar left the bridge at approximately 2130. Deck Cadet J.A. Bhombal had come up voluntarily to observe the transit and practice position fixing. A helmsman was also on the bridge. A lookout/standby helmsman was also assigned duties during this watch; at the time of the incident he was having coffee in the messroom.

10. The Deck Watch Officer was carrying out navigational duties plotting the progress of the ship along the track by means of visual bearing and radar distances. He was also continuously monitoring the ship's position relative to the planned track by means of parallel indexing on the starboard radar. The Master was kept continually advised of the ship's position in respect of her position relative to and her progress along the planned track, and he was adjusting course as necessary to maintain this track.

11. The bridge personnel were aware of, and were utilizing, the radio tidal gauges at Booby Island (DF 320kHz), Goods Island (VHF Channel 861, Turtle Head (VHF Channel 87) and Ince Point (VHF Channel 88). The VHF gauges are a relatively new installation and the ship had only received details of them by radio Navigation Warning from Thursday Island on 23 July.

12. The depth of water under the ship was being monitored by means of the main echo sounder recorder in the chartroom and its digital repeater in the wheelhouse, the fore and aft shallow water digital indicators in the wheelhouse, and the depth facility on the doppler log display. There was no discrepancy between any of the instruments.

13. The vessel's Forward and Aft draft gauges were not in operation.

14. The Master had decided on a minimum under keel clearance for the transit of 1.2 metres. The ship's arrival at Gannett passage was delayed so that the transit could be started when there was sufficient tidal height. To obtain this clearance, the Booby Island Tide Gauge would need to show 3.2 metres.

The actual height at 1930 at the Booby Island gauge was 3.2 metres. Thereafter the passage proceeded as planned with the anticipated tidal heights at Goods Island and Hammond Rock being confirmed by the appropriate tide gauges.

15. The Master anticipated from previous experience of this and other ships of this class that the vessel would squat approximately 0.3 metres at manouvering full ahead (90 rpm 12 knots in still water). The publication "Ship Squat" by C.B. Barrass which contains graphical data regarding squat and formulae for calculating squat, was available onboard. (As a ship begins to make way through the water, she undergoes a change in mean draft known as sinkage. This change may occur equally forward and aft or may be greater at the bow or the stern, the resulting change in trim being called "squat". From: SHIPHANDLING FOR THE MARINER, Daniel H. MacElrevey)

16. At 2135 the ship had arrived at the position NW of Wednesday Island (WP 28) and course was altered to 090° True to come along the track delineated by East Strait Island leading lights. This track passes immediately north of "East" buoy (red can Fl(2)R.6 sec). When the navigating officer Second Mate S.B. Mohindra originally laid off the course for this leg, he plotted a course of 0920 True (T) from WP 28, which would have taken the ship south of "East" buoy. However after reviewing the plan prior to the transit, the Master instructed him to change the course to 090° True along the leading lights north of the buoy, because of his concern at the proximity of OG Rock (12.3m) charted WSW of the buoy. He was aware of the 11m sounding immediately north of the buoy but intended to pass between this and the 11.9m sounding to the NE of it. See Annex 1, Aus Chart 293. [Appendix 1].

17. Both the leading lights and the light on "East" buoy were visible prior to the alteration on to this 090° True leg.

18. Around this time both the Chief Mate and Third Mate independently asked the Master which side of the buoy he was going to pass. The Chief Mate by referring to "a red buoy" and the Third Mate by mentioning the 11m sounding. In both cases the Master replied that he would pass to the north of the buoy.

19. As the ship approached the buoy she was slightly to the north of the leading line but was being set down towards it. To counter this the Master had applied an increasing amount of port set so that as they passed the buoy the ship was heading 080 True; once clear of the buoy the set was taken off and the ship came back to 090° True.

20. The speed of the ship at this time was approximately 9 knots, as per the doppler log, on a bell of navigation full ahead which had been ordered at 2147, the previous bell being full ahead.

21. At this time Ince Point tidal gauge was registering a tidal height of 1.5 metres.

22. The charted depth of OG Rock is 12.3m whereas the minimum sounding on the planned track is 11m.

23. There is a caution on Aus Chart 293 regarding sandwaves and rocky outcrops in the area south of Alert Patches.

24. Information on Aus Chart 293 regarding the "Two Way Route" recommends that ships keep to the starboard side of the route (Note 2). (The Master might have been unduly influenced by Note 3, which states: Ships whose movements are restricted by their draught should display the signals specified in Rule 28. Such ships may not be able to keep to the starboard side of the route.)

25. Admiralty Pilot Vol. 15, p. 229 L20-31 states when describing a Westerly transit "pass N of Alert Patches Light Buoy". It also draws attention to the 11m patch close NE of the buoy.

26. The buoy was passed 0.75 cables off to starboard and shortly after, with the buoy approximately 4 points on the starboard quarter, the ship was felt to shudder. The engine was placed on half ahead and the Master commented to the Third Mate and Cadet that they must have passed close to a shallow patch. He noted the peak on the echo sounder recorder at this time. When no further tremors were felt the engine was returned to full ahead.

27. About 15-20 minutes later the ship was found to have developed a port list and the Master ordered all ballast, cargo, and draft gauges to be operated from the cargo control room. These showed that the forepeak and No. 1 Port double bottom tanks had filled with water and that the ship was now down by the head. This was confirmed by tank soundings.

28. Cargo tanks were confirmed by ullaging to be intact.

29. The ship touched bottom in an area to the north-north east of "East" buoy; the least charted depth in this area is 11 meters which with a tidal height of 1.5 metres gave a minimum depth of water of 12.5 metres. Contact position is marked on Annex 1, Aus chart 293.

30. The ship's draft was Forward 11.6 metres, Aft 11.8 metres. From the "Barrass" data it can be ascertained that at 90 rpm 12 knots the ship would be expected to squat by approximately 1.15 metres. On navigation full ahead the squat would be slightly more, say 1.2 metres by the head. This gives a minimum forward draft of 12.8 metres.

31. The bow of the ship was approximately 1 cable east of the buoy and the 11m sounding and probably just touched one of the rocky outcrops in that area specifically mentioned by the Caution on Aus Chart 293.

CONCLUSIONS

1. The proximate cause of the grounding of the MOBIL ENDEAVOUR was that the Master ignored the Passage Plan drafted by his Navigator, and followed the leading lights on the East Strait Island, which led him North of "East" buoy. He should have passed to the South of "East" buoy.

2. The Master failed to calculate and allow for the effect of squat.

3. The Master ignored the cautionary note on Aus Chart 293 that warned that "rocky outcrops occur in the channel between the patches".

4. The Master failed to appreciate the 11 metre soundings recorded on Aus Chart 293 that he would confront on his intended track.

5. The Master failed to heed the implied warnings by his Chief Mate and the Deck Watch Officer, when he confirmed that he intended to pass to the north of "East" buoy.

6. The Master failed to employ a Torres Strait Pilot, which would have minimized the risk of grounding and pollution in an area of great ecological sensitivity.

RECOMMENDATIONS

1. That the use of a Pilot in the Torres Strait and the Great Barrier Reef area be considered by all Masters and operators, as recommended by an International Maritime Organization proposed Resolution.

2. That the Master of MOBIL ENDEAVOUR, Captain Anthony C. Barretto, Liberian License No. 313136, have his Liberian License suspended for a period of six months.

[ORIGINAL SIGNED]
Captain W.A. Chadwick

PRINCE OF WALES CHANNEL

DEPTHS IN METRES
SCALE 1:37,500

CAUTION - SAND WAVES

Herald and Alert Patches are sand wave formations which cause variations in shoal depths. The sand waves trend S.E. from Herald Patches and N.E. from Alert Patches. In addition, rocky outcrops occur in the channel between the patches.

Composite Portion
OF CHART AUS 293

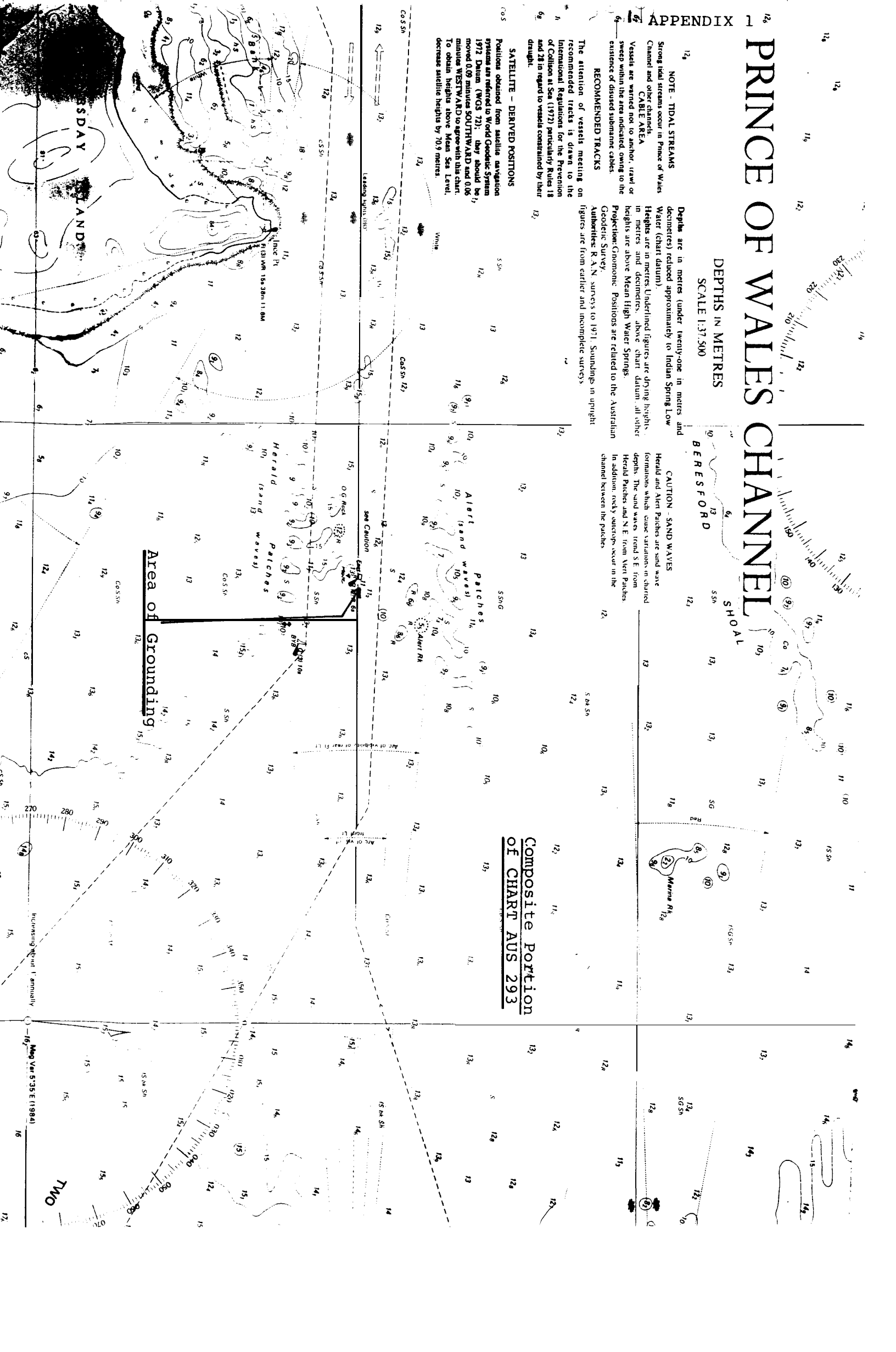
NOTE - TIDAL STREAMS
Strong tidal streams occur in Prince of Wales Channel and other channels.
CABLE AREA
Vessels are warned not to anchor, trawl or sweep within the area indicated owing to the existence of disused submarine cables.

RECOMMENDED TRACKS

The attention of vessels meeting on recommended tracks is drawn to the International Regulations for the Prevention of Collision at Sea (1972) particularly Rules 18 and 28 in regard to vessels constrained by their draught.

SATELLITE - DERIVED POSITIONS

Positions obtained from satellite navigation systems are referred to World Geodetic System 1972 Datum (WGS 72); they should be moved 0.09 minutes SOUTHWARD and 0.06 minutes WESTWARD to agree with this chart. To obtain heights above Mean Sea Level, decrease satellite heights by 70.3 metres.



INTERNATIONAL MARITIME ORGANIZATION

4 ALBERT EMBANKMENT,
LONDON SE1 7SR
Telephone: 01.735 7611
Telegrams: INTERMAR-LONDON SE1
23588

Ref. T2/2.01



IMO

APPENDIX 2
USC/Circ.430
21 February 1986

**THE USE OF PILOTAGE SERVICES IN THE TORRES STRAIT
AND GREAT BARRIER REEF AREA**

1 At its fifty-second session the Maritime Safety Committee approved the draft Assembly resolution, (MSC 52/28, annex 5) which is attached, on the use of pilotage services in the Torres Strait and Great Barrier Reef area for submission to the fifteenth regular Assembly for adoption (MSC 52/28, paragraphs 8.5 and 8.6).

2 Taking into account the complexity of navigation in and the ecological sensitivity of the Torres Strait and Great Barrier Reef area, the draft Assembly resolution is brought to the attention of Member Governments, together with a recommendation that ships utilize the pilotage services provided pending adoption of the resolution.

ANNEX 5

DRAFT ASSEMBLY RESOLUTION ON

THE USE OF PILOTAGE SERVICES IN THE TORRES STRAIT AND
GREAT BARRIER REEF AREA

THE ASSEMBLY,

RECALLING Article 15(j) of the Convention on the International Maritime Organization concerning the functions of the Assembly in relation to regulations and guideline⁶ concerning maritime safety and the prevention and control of marine pollution from Ships,

RECALLING ALSO that regulations 1(9) and 9 of Annex 1 to the International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 relating thereto, recognizes the need to protect the environment of the Great Barrier Reef, by defining the nearest land off the north eastern coast of Australia as the outer edge of the Reef and prohibiting the discharge into the sea in its vicinity of oil or oily mixtures from Ships,

BEING AWARE of the close relationship between the safety of navigation and the prevention of pollution from Ships,

BEING AWARE ALSO of the urgent need to protect the vulnerable Great Barrier Reef area, which has been included on the World Heritage List, and the Torres Strait,

NOTING that the navigation of Ship⁶ carrying Substance⁶ harmful to the marine environment through the Great Barrier Reef and Torres Strait area constitutes a potential danger of pollution to this unique area due to the risk of grounding or collision,

NOTING ALSO-that the routes through the Torres Strait and Great Barrier Reef area are difficult to navigate,

TAKING NOTE OF:

resolution 5 - Intentional pollution of the sea and accidental spillages, adopted by the International Conference on Marine Pollution, 1973;

resolution A.159(ES.IV) - Recommendation on pilotage; and

MSC/Circ. 158 - Control of ship's movements of chemical tankers and gas carriers,

RECOMMENDS that ships of 100 metres in length and over and all loaded oil tankers, chemical carriers or liquefied gas carriers, irrespective of size, use the pilotage services provided by the Queensland Coast and Torres Strait Pilot Service when navigating in the Torres Strait and inner route of the Great Barrier Reef area between Booby Island (latitude 10°36' south, longitude 141°54' east) and latitude 16°40' south or through the Great North East Channel, or Hydrogiaphers Passage.
