

M.S. "PANAGUSTA" (EX "L.C.T. 430")

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Moulded Dimensions 175'-0" x 30'-0" x 8'-10"

This ship was built at Glasgow in 1943 for the Admiralty as a landing craft, tank, Mark 3. She was not built to the Society's Class.

The machinery was made at Colchester by Messrs. Davey Paxman in 1945 under the supervision of the Society's Surveyors.

In 1946, the ship was purchased for conversion into a cargo ship, by the Neptune Shipping and Trading Co., who requested the Society to class her. Plans embodying alterations for conversion to a cargo ship prepared by Mr. C.V. Hughes (a Naval Architect), were examined in the London Office by J.M. Murray, and the scantlings found suitable for the Class A- with freeboard. "For service in the Eastern Mediterranean and Red Sea", on a summer moulded draught of 6'-6".

The alterations consisted of:-

- The fitting of a raised forecastle 21 feet long by 3 feet in height.
- The closing in of the open part of the existing forecastle.
- The stiffening and welding up of the brow doors.
- The fitting of a companionway to the forward pump-room.
- The fitting of a collision bulkhead on Frame No. 1 above the double-bottom and the strengthening of the existing portion in the double-bottom.
- The fitting of a watertight bulkhead on Frame No. 11 except in way of the duct keel.
- The decking-in of the well forward of Frame No. 39 at the top of the existing coaming which was reinforced to form a trunk, with hatchways according to Rule fitted on top of this trunk, and the supporting of the deck by new pillars and girders.
- The decking-in of the well abaft Frame No. 39 at upper deck level and the fitting of an additional deckhouse on this deck.
- The fitting of a watertight bulkhead on Frame No. 17a in the centre space only (the remainder was existing).
- The covering of the engine-room hatchway by a companionway.
- The fitting or modifying of auxiliary steering gear, belting, cargo-gear, boats, rails on deck and trunk.

The new work connected by welding consisted of the trunk stiffeners and knees, the midship bulkhead, forecastle front and deck, the new casings. The brow doors were closed by welding.

The machinery and pumping arrangement plans were examined by Mr. J. Beveridge. The machinery was accepted for classification on the understanding that the engines would be derated so that the brake horse-power would not exceed 380 per engine. On the 21st October, 1946, Mr. Hughes was informed that the spare gear for the main and auxiliary engines and pumps, as detailed in the list supplied by the Owner, was in order.

As regards the pumping arrangements, Mr. Hughes, the Owners Representative, was informed on the 22nd August, 1946, that a considerable number of alterations would be required. These included: the fitting of a new bilge main, since the existing bilge suction were taken from a main which could also be used for the pumping of water ballast; arrangements for the continuous drainage of the holds to the forward and after sections of the duct keel, which thus acted as bilge wells for the holds; the restriction of the area of the tank filling pipes in view of the small size of the existing air and overflow pipes to these tanks; and the provision of two additional bilge suction in the main engine-room.



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On the 10th October, 1946, the final plan of pumping arrangements was approved subject to a few minor amendments. It was then pointed out that separate provision should be made for draining the forward pump room in lieu of using No. 1 hold bilge suction by way of the forward duct keel, <sup>with</sup> a drainhole in the duct keel top plating in the pump-room, since this arrangement made No. 1 hold and the pump-room common. On the 15th October, Mr. Lowe and Mr. Hughes called and requested approval of their original proposal for drainage of the pump room. This was agreed provided the drain hole in the duct-keel top plating was fitted with a screw-down valve operated from the deck.

The vessel was converted at Rochester by the New Medway Steam Packet Co. Ltd., and was submitted to the survey required for the classification of ships not built under the Society's Special Survey, the survey being made while the ship was afloat and while she was on the grid.

The following are details from the Journal of Mr. Lloyd Roberts, who performed the survey on the hull:-

- 2nd July, 1946. Afloat at Rochester. With Naval Architect, Mr. Hughes, and Owners' Representative Mr. Hunter, examined vessel in conjunction with plans of proposed alterations and made general recommendations. Plans to be completed and Mr. Hughes visiting London Office at 5.30 p.m. Friday.
- 20th September, 1946. On grid at Rochester. Examined progress and arranged for Freeboard Survey.
- 23rd September, 1946. On grid at Rochester. Commenced survey for freeboard assignment. Indicated that battens as rigged for measurement were unsuitable.
- 3rd October, 1946. On grid at Rochester. Examined bottom and rudder, checked positions of ventilators, hatchways, etc. with plans. Lifted actual sheers for computation (freeboard).
- 7th October, 1946. On grid at Rochester. Checked scantlings and continued freeboard survey. Examined progress of alterations and made recommendations.
- 12th November, 1946. Afloat at Rochester. Carried out survey for scantlings and completed freeboard survey.
- 18th November, 1946. Afloat at Rochester. Tested fore peak bulkhead in way of No. 1 double bottom tank. Examined fore peak tank. Tested No. 3 double bottom tank except in way of duct keel. Arranged for repairs to damaged shell plate port side forward. Examined progress of conversion. Endeavoured to test other double-bottom tanks and wing tanks but prevented by rain water constantly entering adjacent compartments.
- 2nd December, 1946. Afloat at Rochester. Examined progress of repairs and alterations.
- 6th December, 1946. Afloat at Rochester. With Mr. Hughes tested Nos. 1 and 2 double bottom tanks and examined adjacent spaces; all satisfactory. Discussed completion of survey and all remaining requirements.
- 27th December, 1946. Afloat at Rochester. Examined progress of conversion and discussed arrangements for marking freeboards.



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- 30th December, 1946. Afloat at Rochester. Examined completed free-board requirements. Trunk deck and bulwark stanchions not fitted yet, other parts satisfactory.
- 3rd January, 1947. Afloat at Rochester. Examined remaining outstanding requirements also closing arrangements for watertight door in engine-room after bulkhead.
- 10th January, 1947. Afloat at Rochester. Verified freeboards for service in the Mediterranean. These to be covered and Load Line Certificate to be issued at Port Said. Special Freeboard to be assigned for voyage to Mediterranean. 4 extra stanchions and fore-and-after runner under bridge also canvas covers to steel hatchways required.

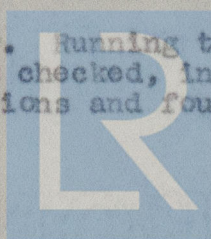
Mr. Lloyd Roberts states that all tanks were tested under pressure and that he hose-tested or flood-tested all new work.

The following are details of the survey on the machinery from Mr. Sellex's Journal:

- 20th September, 1946. On grid at Rochester. Examined propellers and outside fastenings of sea connections. This vessel has twin 12 cyl. V type Paxman Ricardo engines and one 3 cylinder ~~Leister~~ auxiliary Modern wheel reversing gear size AP3 Type MW 4 No. 3255 port and No. 3330 starboard. Awaiting information regarding engines.
- 25th September, 1946. On grid at Rochester. Took various measurements of tail-shafts, main engines, shafting, pumping arrangements, etc. towards classification of vessel. The Owner states although max. revs of ME are 1300 RPM he intends to run at 1050 RPM as this is sufficient and very economical on fuel consumption.
- 10th October, 1946. At Rochester. Examination of spare gear in accordance with Rules requirement. Arranged to have duct keel blanked off at forward bulkhead, and for Owners to call office to discuss direct various outstanding points. [ See first paragraph on page 2 where proposed arrangement was modified after visit to head office on 15 Oct 46 ]
- 31st December, 1946. At Rochester. Examined main and auxiliary machinery and pumping arrangements under working conditions. Stated further spare gear (to Lloyd's) expected on board any time.

The following are details of the survey of electrical apparatus from Mr. F.H. Tickell's Journal:

- 22nd November, 1946. At Rochester. Wiring alterations examined and megger tests taken on existing installation. No. 2 generator insulation tests low - to be removed and rebaked. Alternative supply for navigation to be fitted.
- 20th December, 1946. At Rochester. Running trials. Governing on generator engines checked, installation examined under working conditions and found satisfactory.



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On the 21st December, 1946, the Owners applied for a Load Line Certificate. They were informed that the Society would issue the Load Line Certificate covering the Ship's service in the Mediterranean, but they should make application to the Ministry of Transport for a Certificate for the voyage from this country to the Mediterranean.

The Committee in 1929 had issued a circular (No. 1539, a copy of which is appended), stating that in future they would only assign freeboards for the actual service of ships of special type classed for restricted service, leaving control of the loading, preparation and assignment of freeboard for the overseas voyage to the Board of Trade.

The issue of this Circular followed upon the loss of the Dredger "LADY COOMBE" in the Bay of Biscay, the Committee having assigned a freeboard for the voyage to that ship. It was presumably felt that in future cases, in view of the additional risks involved, the Committee was not justified in accepting the added responsibilities of issuing a Load Line Certificate to a vessel trading outside the limits of her class.

It was because of this Circular that the Owners were advised to apply to the Ministry of Transport for the Load Line Certificate for the voyage.

On the 30th December, 1946, Mr. Roxburgh, a Surveyor to the Ministry of Transport, attached to their London Outport Office, telephoned to Mr. S.T. Bryden stating that he had received a telephone message from Mr. Lloyd Roberts pointing out that this ship was classed for a restricted service, and was requiring a Provisional Load Line Certificate for the voyage to the Mediterranean. Mr. Bryden explained to Mr. Roxburgh that in accordance with the Committee's Circular of 1929, the Society's Surveyors could not undertake to issue such a certificate. To this Mr. Roxburgh replied that the request, so far as they were concerned, had been received at very short notice, and that having regard to the fact that the Society had completely surveyed the ship and were in possession of all the necessary data regarding construction, he suggested the Society should issue the certificate in this case. Mr. Bryden agreed to submit the matter for consideration. As the Committee's Circular is not a statutory document, and as the Committee had from time to time agreed to waive it in special circumstances, Mr. Bryden considering that the "FAMAGUSTA", in view of her good proportions from the point of view of stability, and adequate structural strength, was a suitable ship for the purpose. After consulting the Society's Chief Ship Surveyor, Mr. R.B. Shephard, submitted to the Committee that in view of the short notice to the Ministry, the Society should in this instance, issue the Load Line Certificate for the voyage. This was agreed to by the Committee.

A special freeboard was therefore assigned for the voyage the freeboard being increased by about 6 inches in order to increase the height of platform and reduce the stresses on the structure, while leaving sufficient draught to ensure good manoeuvrability. On the 1st January, the London Outport Surveyors were instructed to issue a Provisional Load Line Certificate for the voyage, valid for not more than three months when they had satisfied themselves that any special preparations they considered necessary for the voyage had been made. This Certificate was issued on the 11th January, 1947, but actually, the ship did not sail for the Mediterranean until eight weeks later.



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On the 23rd January, 1947, a telephone message was received from Mr. Lowe, the Owner, stating that the ship's departure for the Mediterranean was delayed, and that he desired in the meanwhile to put the ship into service between London and the East Coast. This was agreed to and a Provisional Load Line Certificate was issued by Mr. Lloyd Roberts on the 14th February, 1947, permitting the ship to make the desired voyages.

The following are extracts from the Surveyors' Journals covering the survey for the issue of the Load Line Certificate for the voyage to the Mediterranean:

Mr. Lloyd Roberts:

10th January, 1947. Afloat at Rochester. Special freeboard to be assigned for voyage to Mediterranean. 4 Extra stanchions and fore and aft runner under bridge also canvas covers to steel hatches required.

14th January, 1947. Afloat at Rochester. Verified new freeboard for voyage to Port Said.

15th February, 1947. Afloat at Deptford. Tested auxiliary steering gear and issued Certificates for provisional freeboard for coasting between London and Boston (Lines) until April, 14th.

Between 25th February - 17th March, Mr. Lloyd Roberts was absent having fractured ribs etc. in an accident sustained in the course of his duty and the last survey before the departure of the ship on her last voyage was made by Mr. Sellex.

Mr. Sellex:

12th March, 1947, Afloat at Dagenham. Examined battening down arrangements in place as recommended by Mr. Lloyd Roberts. All found in order and recommended certificate for this can now be issued.

The ship sailed from Dagenham on 13th March, 1947, according to the Master's deposition.

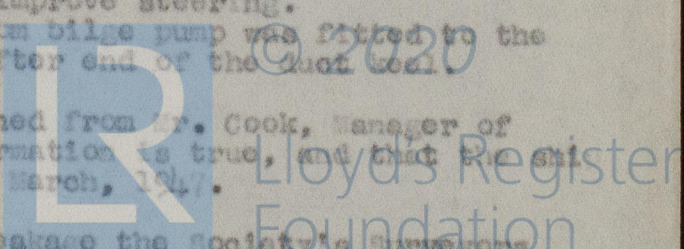
After the ship was lost Mr. Lloyd Roberts reported that he had since heard a rumour that before leaving for the Mediterranean the ship was placed on the hard at Clifton Slipway, Gravesend, for suspected leakage. Repairs and alterations were stated to have been effected at that time as follows:-

Both propellers were changed due to damage.  
The rudder was increased in area to improve steering.  
A suction connected to the engine-room bilge pump was fitted to the previously blanked-off pipe at the after end of the Quot beam.

It has since been ascertained from Mr. Cook, Manager of Clifton Slipway, that the above information is true, and that the ship was on the hard between 7th and 11th March, 1947.

In view of the suspected leakage the Society's Surveyors should, of course, have been called in but there is no knowledge whatever that a Surveyor was either called or attended. The failure

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to report the leakage is the more remarkable in that Mr. Sellex, who visited the ship on March 12th in connection with the final survey before the departure on the last voyage asked - according to his usual practice - whether everything was all right, was answered in the affirmative, but was not informed either of the suspected leak, or of the alterations which had taken place to the propellers, rudder and pumping arrangements, or even that the ship had been placed upon the hard for examination. It will be noted that in the Chief Engineer's deposition, failure to attend to the leakage into the forward tank is given as, in the deponent's opinion, one of the causes of the casualty.

A strength calculation of the conventional type as to the stresses sustained by the ship under actual loading conditions was made by Messrs. J.M. Murray and J.B. Davies after the loss of the ship.

These were:

Sagging Stress 5.2 per square inch compression at the trunk deck.  
1.9 tons per square inch tension at the keel.

Hogging: Stress 5.9 tons per square inch tension at the trunk deck.  
2.2 tons per square inch compression at the keel.

The modulus of resistance for the actual draught as required by the formula in the Load Line Rules is 592.

The actual modulus of resistance of the ship was 672.

The Certificates issued to the ship by Mr. C. Lloyd

Roberts were:

13th January, 1947. Interim Certificate of Classification for Class A1 with freeboard "for service in the Eastern Mediterranean and Red Sea". (summer moulded draught 6'-6").

14th January, 1947. Provisional Load Line Certificate for the voyage from the United Kingdom to Port Said with a freeboard of 3'-0" from the top of the steel deck line (moulded draught 5'-4½").

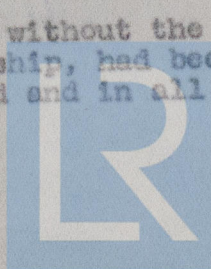
14th February, 1947. Provisional Load Line Certificate for service between London and Boston (Lines) with a freeboard of 3'-0" from the top of the steel deck line, valid until 14th April, 1947. (moulded draught 5'-4½").

14th February, 1947. Interim Certificate of Classification permitting the ship to trade between London and Boston (Lines) until 14th April, 1947. (moulded draught 5'-4½").

13th March, 1947. Interim Certificate of Classification for the voyage from the United Kingdom to Cyprus via Port Said, valid until 14th April, 1947. (moulded draught 5'-4½").

The beaching draughts of landing craft, tank, Mark 3, on Admiralty service were: forward 3'-10", aft 7'-0"; mean 5'-5".

Ships of this type, without the added protection afforded by conversion to a cargo ship, had been employed by the Admiralty in all parts of the world and in all conditions of weather.



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