

C O P Y .



3045A

S/Tanker "FULGOR".

GIBRALTAR.

1st December, 1943.

THIS IS TO CERTIFY

that the undersigned Surveyor to this Society did, at the request of the Owners Agents, Messrs Mackintosh & Co (Gibraltar) Ltd, and by consent of the Master, Captain Balestra Giovanni, survey on the above and subsequent dates, the Italian Steam Tanker "FULGOR", 6504 tons gross, of Genoa, whilst afloat and in dry dock, in ballast condition, on account of Item (1) Sabotage damage, Item (2) Boiler, Machinery and Dry Docking Survey, and issue of a Provisional Load Line Certificate valid for six months, pending the issue of a New International Load Line Certificate at the time of the Vessel's re Classification.

Item (1). It was stated that the vessel was sabotaged at a Spanish Port - Propeller Shaft cut through by Oxy-Acetylene and or explosives, Propeller boss and stern tube completely destroyed, and after peak structure extensively damaged. Outer end of stern tube had been plugged at the Spanish Port. Vessel arrived, in tow of H.M. Dockyard Tug "Rollicker", at Gibraltar and was anchored in the Bay on 1/12/43.

I found and recommended as follows:-

Item & Damage.Item (1).

Propeller Shaft cut into three sections - cut next to coupling and at top of taper, and found lying in thrust recess.

Recommendations & Repairs Effected.

Templet taken from taper of spare Tail Shaft, found on board, and sent to U.K. where a new boss was made, to ship's drawings, passed by L.R. Surveyors and shipped out to Gibraltar

Spare Tail Shaft examined and seen in good order.

A new C/I stern tube, made and tested



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Intermediate length of shafting found disconnected and lying in thrust recess.

Inboard half of C/I stern tube destroyed.

Propeller boss found down fore hold broken into four pieces. Six Bronze Propeller blades in good order found in fore hold.

After peak bulkhead - lower part in B.R. destroyed, torn and/or buckled together with shell boundary bar and bulkhead stiffening brackets.

First floor from bulkhead, in peak, starboard side, badly buckled.

Two suction pipes and one stop valve destroyed.

Floor plates, their bearers, and one coupling guard in thrust recess damaged buckled and/or missing.

After end journal of crankshaft appears to have been driven forward through after L.P. web about 1/64".

Boilers and main in good order in all

bores and uptakes in serviceable condition on all boilers.

## Boiler.

Steam space main stays slight sag at front ends.

## Boiler.

Stays, as above leaking slightly.

## Boiler.

Shell to end plate rivets at end bottom on starboard side seem in way leaking slightly.

Shell plating of all boilers, upper parts where clear of piping in good order.

Piping in serviceable condition generally.

Fuel fittings and brick work in good order generally.

Coals, Coals, & Mountings.

Boiler Main Stop Valve slightly at boiler shell

by H.M. Dockyard Gibraltar, complete with bushes, Lignum Vitae bearings, and all fittings.

Vessel placed under Dockyard Crane 19/9/44 and spare Tail shaft, Intermediate Shaft, broken boss and 4 blades lifted ashore and taken into workshops.

Vessel then towed out and re-anchored in Bay.

New boss fitted to Tail shaft. Boss studded and blades set to 15.5 ft pitch.

Vessel placed in No 1 dry dock on 18/5/45.

Thrust shaft taken to workshops and, together with Intermediate and Tail shafts, put in lathe, coupling faces skimmed, all fitted in line, coupling bolt holes reamed, and new bolts made and fitted.

Alignment of after Engine coupling and hole in stern frame taken. Hole in stern frame bored to alignment and a rolled steel plate bush machined fitted and secured.

Damaged section of after peak bulkhead, boundary bar, brackets, and damaged structure in after peak, all renewed.

New stern tube, tail shaft, intermediate and thrust shafts assembled.

Coupling of Tail shaft found to lie 9/16" to Port of Intermediate shaft coupling on assembling.

All parts again removed and Tail shaft coupled up to Intermediate and Thrust shaft - with stern tube removed.

Bulkhead and Stern frame then marked off from outer circumference of Tail shaft. All parts removed, including bush in stern frame, stern frame re-bored to new markings and a new C/I bush machined, fitted and secured.

All parts again assembled in true alignment.

After peak pipes and valves renewed. Peak cleared and cement washed after testing.

Thrust recess floor plates and bearers repaired and/or renewed.

One defective length of after peak suction pipe renewed.

A drawing of Tail shaft made and sent to U.K. for the manufacture of a new spare shaft.

Markings on Spare Shaft now fitted:-

No. 6926 - B.C. 9/12/20.

No. 1007 - L.R. 9/2/21.



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Item (2).

Three Main Boilers.

Stated to have not been used during about four years in a Spanish Port and to have been opened up and left dry.

Internal condition of the three boilers good generally with heavy scale on furnace crowns and a normal amount on tubes and combustion chamber surfaces.  
No active corrosion.

Externally.

Furnaces in all boilers in good order. Gaugings showed very minor deformations.

Slight leakages at several plain tube backends.

Combustion chambers and their stays and nuts in good order in all boilers.

Smoke boxes and uptakes in serviceable condition on all boilers.

Port Boiler.

Four steam space main stays slight leakage at front ends.

Centre Boiler.

Two stays, as above leaking slightly.)

Starboard Boiler.

Several shell to end plate rivets front end bottom on starboard side and seam in way leaking slightly.

Lower shell plating of all boilers, also upper parts where clear of lagging in good order.

Lagging in serviceable condition generally.

Oil fuel fittings and brick work in good order generally.

Valves, Cocks, & Mountings.

Centre Boiler Main Stop Valve leaking slightly at boiler shell joint.

Opened out and cleaned, externally and internally for survey.  
Heating surfaces scaled and furnace crowns coated with "Apexior".  
New zinc plates fitted.

Tubes expanded as found necessary.

Internal nuts slacked back, stays caulked tight and nuts hardened up.

Rivets and seam caulked tight.

Exposed lower shell plating scaled, wire brushed and red leaded.

Reconditioned as found necessary.

All opened out for survey overhauled and reconditioned for wear and tear.

New valves, seats, spindles, glands, studs and bridges made and fitted as found necessary, and all boxed up in efficient working condition.

Main Stop Valve removed - Shell in way found good, and rejointed.

All Boilers filled, steam raised, and seen in good order.



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Safety valve springs very slightly corroded on all boilers, but serviceable.

Donkey Boiler.

Internally. Furnaces heavily scaled tubes and other heating surfaces to a lesser extent. Combustion chamber stays many wasted and require renewal.

Externally. Heavy leakages at backends of plain tubes.

Valves, Cocks, & Mountings.Main Engines.

Quadruple, four crank.

Springs cleaned, wire brushed and coated with Graphite.

Opened out, scaled and cleaned for examination.

Combustion chamber stays not dealt with at this time owing to extent of work involved and labour conditions at this Port.

8 plain tubes renewed others expanded as found necessary.

All opened out, reconditioned for wear and tear. New valves, seats, studs and spindles, made and fitted as found necessary and all boxed up in efficient order.

It is recommended that this boiler be again surveyed, during the re-classification of the vessel, and such repairs effected as may be required by the Society's Surveyors, and that the boiler be NOT used prior to the foregoing survey.

All Cylinders, Pistons, and valves opened out for cleaning and survey.

Piston rings and valves adjusted. Valve leads verified and all boxed up in efficient working order.

All main bearings lifted journals and top halves seen in good order, adjusted and boxed up in good order. Thrust opened out shoes overhauled and re set.

All bottom ends, stated by Chief Engineer, to have been opened out, cleaned, and adjusted in good order at Cadiz prior to the vessel's arrival at Gibraltar. Now washed out and oiled.

Main condenser opened out cleaned tested and boxed up in good order.

Air, Bilge and Feed pumps opened out, overhauled, new valves and studs fitted, relief valves reconditioned, as found necessary and boxed up in efficient working order.

Suction pipe (Copper) from condenser to air pump removed repaired, annealed, tested and refitted.

Turning and Reversing Engines overhauled.



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Auxiliary Machinery.

Two Main and one Auxiliary Weirs feed pumps.

Circulating Pump & Engines.

Excessive side play on Impeller.

Combined Air & Circulating Pump of Aux:Condenser.

Auxiliary Condenser.

Fan Engines.

General Service Pump.

No.1 Dynamo Engine.

No.2 Dynamo & Engine.

Missing. Stated to have been taken ashore in Genoa for reconditioning prior to the vessel's last departure from Italy.

Fresh Water Pump.

Water end corroded through casting at one point.

All parts opened out, overhauled, reconditioned and boxed up in good working order.

All completely overhauled - New piston and bucket rings, suction and delivery valves, shuttle valve spindles made and fitted and all boxed up in efficient working order.

Overhauled and sundry pipes repaired and/or renewed and boxed up in efficient working order.

Impeller removed and new bronze side rings fitted to Impeller and casings.

Both engines overhauled and all boxed up in good working order.

It is recommended that this pump be again surveyed, during the vessel's re classification, as the C/I casings are corroded internally, and dealt with as may be required by the Society's Surveyors.

Not dealt with at this time. It is recommended that the cable lifter

All parts opened out and overhauled and reconditioned.

New valves fitted as found necessary and boxed up in efficient working order.

Opened out, cleaned, tested and closed up in efficient working order.

All parts opened out, overhauled, adjustments for wear made and both boxed up in efficient working order.

Ridges taken out of cylinders new piston and bucket rings fitted. Steam end valves reconditioned. Suction and delivery valves overhauled and/or renewed as found necessary.

Stripped down. Crankshaft put in lathe journals skimmed and new bearings fitted. All parts adjusted and all boxed up in efficient working order.

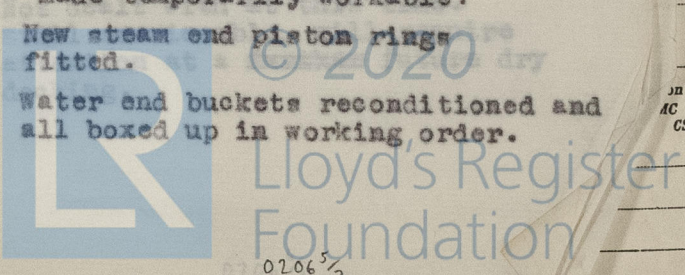
Coating of anti fouling applied before uncocking owing to the first one being exposed to air during re alignment of steam tube.

Not dealt with at this time owing to labour conditions.

Corroded casting plugged and pump made temporarily workable.

New steam end piston rings fitted.

Water end buckets reconditioned and all boxed up in working order.



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=====Donkey Boiler Pump.

All parts opened out, overhauled, reconditioned and boxed up in good working order.

Evaporater.

Opened out Valves and Coils reconditioned.

Oil Fuel Installation.

Overhauled and sundry pipes repaired and/or renewed and boxed up in efficient working order.

Steering Engine.

Cylinders and valves opened out, sundry adjustments to running parts made and all boxed up in efficient working order.

Cargo & Forward Ballast Pumps.

Sundry adjustments made as found necessary and seen working in good order.

Windlass.

(Italian Manufacture).  
Cable lifters worn.

Not dealt with at this time. It is recommended that the cable lifters be renewed or repaired during vessel's re classification.

Anchor & Cables.

Two Bower Anchors and four and four and a half 15 fathom lengths of chain cable stated to have been lost during vessel's stay in the Bay of Gibraltar.

Signal sent 11/6/45 to U.K. by M.W.T.R. Gib, requesting supply of two 3½ ton anchors and 9 shackles of 2½ stud link chain cable with anchor connecting shackles.

Vessel has at present only Starboard Bower anchor and 9 shackles of cable on board.

Cables ranged and shackles overhauled on dock side and the 9 sound shackles are now on Starboard Anchor.

Pipe Lines.

Sundry sanitary line, deck steam and exhaust, tank gas escape, and E.R.bilge pipes defective.

Repaired and/or renewed.

Dry Dock.

Outer bottom plating sighted fair. Plate landings in good order generally. Heavily coated with shell and weed.

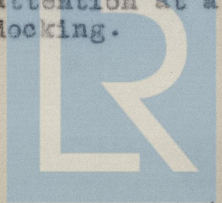
Underwater plating scraped and wire brushed clean, and full coatings of anti corrosive and anti fouling compositions applied - A second coating of anti fouling applied before undocking owing to the first one being exposed to air during re alignment of stern tube.

Sundry rivet heads wasted towards aft, Port side, on 1st and 2nd strakes above bilge, serviceable for the present.

Not dealt with at this time owing to labour conditions.

Bow plating edges worn due to chafing by anchor cables.

Not dealt with at this time. Still serviceable, will require attention at a further future dry docking.



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Bilge Keels.

Port & Starboard bilge keels have been cut away at some time.

About 60 feet from after ends, and 25 feet from fore ends. Remaining keels in good order.

Rudder. Examined in place. Clearances normal. In good order generally.

Underwater Valves & Gratings.

All valves opened out for survey. Cleaned, reconditioned as necessary and boxed up in efficient order.

Gratings cleaned.

Propeller Aperture Zincs.

Wasted and part missing.

All renewed.

30/6/45. Provisional Load Line Certificate, valid for six months, issued pending issue of a new International L.L. Certificate at the time of the vessel's re classification.

13/7/45. Vessel undocked and towed to berth at Detached Mole.

19/7/45. Satisfactory dock trials of Main & Auxiliary Machinery carried out for one hour alongside quay.

28/7/45. Three Main Boiler safety valves set to blow off at 215 lbs per sq inch.

27/7/45. Satisfactory trials of Main & Auxiliary Machinery carried out when steaming from Admiralty Harbour to Anchorage at N.W. corner of Bay.

28/7/45. Vessel Certified Seaworthy and be allowed to proceed, in ballast, on her intended voyage to a U.S.A. or other Port for re classification.

The foregoing survey pertains only to the items detailed in this report.

*W.B. Morritt*

W.B. Morritt. M.I. Mar. E.  
R.I. Surveyor.



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