

REPORT OF SURVEY FOR REPAIRS, &c., OF ENGINES AND BOILERS

(Received at London Office 12 MAR 1942)

Date of writing Report 10th March 1942 When handed in at Local Office 19 Port of DUBLIN
 No. in Survey held at Dublin Date First Survey 5th Sept 41 Last Survey 9th MAR 1942
 737/ on the Machinery of the Wood, Iron or Steel S.S. "IRISH ELM" ex "LEDA" (No. of Visits 29)
 Gross 4115 Vessel built at SUNDERLAND By whom J. L. THOMPSON & SONS LTD. When 1910 /
 Net 2535 Engines made at do. By whom J. DICKINSON & SONS LD. When 1910
 Nominal Horse Power 350 Boilers, when made (Main) 1910 (Donkey) ✓
 of Main Boilers 2 SB Owners IRISH SHIPPING LD. Owners' Address (if not already recorded in Appendix to Register Book.)
 of Donkey Boilers ✓ Managers 2 Port DUBLIN Voyage
 Main Boilers 180 LB. If Surveyed Afloat 2 in Dry Dock ALEXANDRA
 Donkey Boilers ✓ (State name of Dock.)

st Report No. Port
 Particulars of Examination and Repairs (if any) B.S. & CONDITION.

Medical Surveys, when held, must be reported in detail and seriatim in the terms of the Rules. State clearly the nature and extent of examinations and subsequent repairs. Repairs on account of damage (the cause of which must be stated) should be separated from repairs due to other causes; and ideas being detailed in the body of the report, should be briefly summarised at the end of the report. State also the names and initials of any letters respecting this case.

Damage cases where the Surveyor has not made a special damage report he is required to state whether he offered his services for this purpose, and why they were declined. ✓

a damage report made by anyone else? If so, by whom? ✓

he Surveyor personally go inside each Main Boiler separately and make a thorough examination at this time? Yes

" " Donkey " " " "

s was not done, state for what reasons ✓

what parts of the Boilers could not be thus thoroughly examined? ✓

what special means, in the absence of internal examination, were adopted by the Surveyor to assure himself of the thorough efficiency of those parts of each Boiler? ✓

latest date of internal examination of each boiler 27.1.42 Pr. 2.3.42.

he Surveyor examine the Safety Valves of the Main Boiler? yes. To what pressure were they afterwards adjusted under steam? 180 lb.

he Surveyor examine the Safety Valves of Donkey Boiler? ✓ To what pressure were they afterwards adjusted under steam? ✓

he Surveyor examine all the manholes, doors and their fastenings of the Main Boilers? yes. , and of the Donkey Boilers? ✓

he Surveyor examine the drain plugs of the Main Boilers? yes , and of the Donkey Boilers? ✓

he Surveyor examine all the mountings of the Main Boilers? yes. , and of the Donkey Boilers? ✓

he screw shaft now been drawn and examined? no. Is it fitted with continuous liner? ✓ Is an approved appliance fitted at the after end of the shaft to permit of it being efficiently lubricated? ✓

shaft now been changed? ✓ If so, state reasons ✓

he shaft now fitted been previously used? ✓ Has it a continuous liner? ✓ Is an approved appliance fitted at the after end of the shaft to permit of it being efficiently lubricated? ✓

late of examination of Screw Shaft ✓ State the distance between lignum vitae or bearing metal of stern bush and top of after bearing of screw shaft 1/8"

Engine parts, when referred to by numbers, should be counted from forward.

Did the Surveyor examine the generators, motors, switchgear, cables and fuses?

Insulation resistance of the generators, circuits and apparatus been tested and found to be not less than 100,000 ohms? ✓

Survey is not complete, state what arrangements have been made for its completion and what remains to be done ✓

placed in dry dock Propeller, aft end of stem tube and outside
fastenings examined.

At the request of the Owners representative examined leglinders, pistons,
side valves, crank thrust and intermediate shafting, pumps, condenser,
oilers open up cleaned, examined internally and externally
with mountings, safety valves man hole doors and fastenings.
safety valves were adjusted to the pressure stated.

Found. Recommended.
P. piston valve top ring spring H.P. piston valve top ring spring to be
renewed.

General Observations, Opinion, and Recommendation:—The machinery of this vessel so
State clearly what alteration, if any, is suggested to be made in the existing classification of the vessel's machinery in the Register Book consequent upon this survey, and also
any alteration required to be made in the records of the vessel's machinery, boilers, working pressures, &c.; thus, for example, B.S. 9,11, B.&H.S. 9,11, L.M.C. 9,11, or
as now seen is in good condition and eligible in my opinion
remain as now classed with fresh record B.S. 3.42.

Fee (per Section 29) B.S. £ 3 : 0 : 0 Fees applied for 10th MAR 1942
 Repair Fee (if any) (per Section 29.) £ 21 : 0 : 0 Received by me, 19
 Ling expenses (if chargeable) £ : : : 19

Committee's Minute WED. 1 APR 1942
 Signed R. B. 3.42

R. B. Guer. © 2021
 Engineer Surveyor to Lloyd's Register of Shipping.

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S.S. "IRISH ELM."

FOUND.

RECOMMENDED.

Crank shaft-bearings lower halves Nos 1, 2, & 4 metal found to be thin and spread from $\frac{3}{8}$ " to $\frac{9}{16}$ " proud of casting and pieces broken out. Nos 3, 5, & 6. Metal thin spread and signs of overheating.

Thrust shaft, collars, bearing surfaces uneven.

Thrust shaft shoes ahead white metal uneven and backed with an excessive number of lines.

Intermediate shafting signs of couplings started and Nos 2, 3 and 4 bearings metal thin and spread $\frac{1}{4}$ " to $\frac{3}{8}$ " proud of casting.

Thrust block bearing white metal thin and spread $\frac{1}{2}$ " proud of casting.

Intermediate shafting bearing stools odd rivets slack.

H.P. crosshead branes top and bottom halves completely fractured.

H.P. crosshead guide shoe (C.D.) astern fractured through top fastening holes on crosshead flange.

H.P. connecting rod bottom end white metal overheated and run.

L.P. crosshead branes top half fractured lower half thin.

L.P. connecting rod bottom end metal cracked and slack pieces broken out.

L.P. crosshead branes top and bottom halves completely fractured.

L.P. connecting rod bottom end metal cracked and slack pieces broken out.

Column head bolts odd started.

Crank shaft to be lifted and the lower halves of bearings Nos 1 to 6 ^{to be remetalled.} inclusive crank shaft rebedded all crank bolts to be hardened up and fit new stoppers where necessary.

Thrust shaft to be placed in lathe and collars skimmed.

Thrust shoes to be remetalled.

Intermediate shafting remove coupling bolts, renew white metal in Nos 2, 3, & 4 bearings.

Thrust block bearing white metal to be renewed.

Crank thrust and intermediate shafting to be tested for alignment all holding down bolts to be examined and hardened up.

Intermediate shafting bearing stools all rivets to be hammer tested and renew those slack.

H.P. crosshead branes both halves to be renewed.

H.P. crosshead guide shoe (C.D.) astern to be renewed.

H.P. connecting rod bottom end to be remetalled.

L.P. crosshead branes top and bottom halves to be renewed.

L.P. connecting rod bottom end to be remetalled.

L.P. crosshead branes top and bottom halves to be renewed.

L.P. connecting rod bottom end to be remetalled.

Column head bolts top and bottom to be examined and hardened up.

S.S. "IRISH ELM." FOUND.

Pump levers, gudgeon bearings
metal thin.

Pump link brasses top oval and
thin.

crosshead link brasses oval and
thin.

L. P. eccentric sheave ^{A.H.} surface
rounded and worn.

L. P. eccentric strap ^{A.H.} thin and
worn $\frac{3}{8}$ ".

circulating pump bucket $\frac{3}{8}$ " slack
one valve seat slack in housing.

Flange at bottom of bucket chamber
wasted.

Feed pump inboard ram head
slack, relief valve springs missing.

Bilge pump (outboard) discharge
valve seat slack.

Auxiliary pump bucket-rings
slack.

General service pump port-liner
worn, piston rings worn.

Bilge pump discharge valve on
ships side out of place & hammered.

one Bilge discharge pipe non return
valve chest hole.

Condenser, 24 tubes leaking.

One peak tank suction pipe
broken.

Bilge suction from storeroom
fractured.

Ballast suction pipe from
engine room to storeroom cracked.

Boilers.Port Boiler.

Port Combustion Chamber. Seven
screw stays wasted.

one plain tube end thin.

Center Combustion Chamber.

RECOMMENDED.

Pump levers gudgeon bearings
bearings to be reinstalled.

Pump link brasses top to be
renewed.

crosshead link brasses to be
renewed.

L. P. eccentric sheave to place in
lathe and machine surface.

L. P. eccentric strap to be renewed.

circulating pump bucket to
be renewed one valve seat to be
renewed. Flange at bottom of
bucket chamber to be renewed.

Feed pump (inboard) ram head
to be renewed, relief valve springs
of both feed pumps to be renewed.

Bilge pump (outboard) discharge
valve seat to be renewed.

Auxiliary pump bucket-rings
to be renewed.

General service pump port-liner
to be renewed, bucket to skin
piston rings to be renewed.

Bilge pump discharge valve on
ships side to be renewed with
seat and chest cover to be
renewed.

one Bilge discharge pipe non
return valve chest to be renewed.
Condenser 24 tubes to be renewed.

One peak tank suction pipe
to be renewed.

Bilge suction from storeroom to
be renewed.

Ballast suction pipe from
engine room to storeroom repair.

Port Combustion Chamber seven
screw stays to be renewed

one plain tube to be renewed

S.S. "IRISH ELM."FOUND.RECOMMENDED.

Back plate in way of third row of screw stays up from bottom plate thin and grooved & wasted at flanges.

Back plate to be cropped to good material and renew. 29 screw stays to be renewed.

Starboard Combustion Chamber

Back plate in way of flanges and screw stays wasted.

Back plate to be cropped to good material and renew. 49 screw stays to be renewed.

Side plate forward landing with nuts near top wasted locally. Odd tubes leaking.

Side plate forward landing to be built up by electric welding. To be expanded.

Port & Starboard bottom man hole doors stud screws worn.

Port & Starboard bottom man hole door studs to be renewed.

Top combustion chamber plate in way of two girder stays local wastage. Auxiliary feed and blow down internal pipes broken.

Top combustion chamber plates to be built up by electric welding. Auxiliary feed and blow down internal pipes to be renewed.

Shell drain plug leaking.

Shell drain plug to be renewed.

Starboard BoilerPort Combustion Chamber

Two screw stay nuts leaking.

Two screw stay nuts to be renewed.

Centre Combustion Chamber

Back plate, in way of seven screw stays taken out - badly wasted also grooved & wasted at flanges. Centre furnace back seam local wastage.

Back plate to be cropped to good material and renew. 31 screw stays to be renewed. Centre furnace back seam built up by electric welding and seam to be caulked.

Back circumferential seam at bottom local wastage and leak.

Back circumferential seam to be built up by electric welding and seam to be caulked.

Shell drain plug leaking.

Shell drain plug to be renewed. Scum feed and blow down pipes to be renewed.

Scum, feed and blow down pipes, internal, broken.

Boiler smokeboxes top & wasted plates to be renewed. Evaporator coils to be renewed & body casting to be patched & tested under hyd. pressure.

Boiler smokeboxes top plating wasted and set down sides thin. Evaporator coils leaking & body casting wasted locally.

These recommendations were carried out in a satisfactory manner the vessel taken to sea and the machinery tested under full working conditions and found satisfactory.

The Boilers on completion of repairs were examined under a hydraulic test at 250 lb. and found satisfactory.

The foregoing recommendations were made with a view to

S.S. "IRISH ELM"

Placing the machinery of this vessel in an efficient and safe working condition.

Auxiliary stop valves controlled from top of casing fitted examined under hydraulic test at 360 lb. and found satisfactory. Two lengths of copper steam pipes cut to suit flanges recharged examined under hydraulic test at 360 lb. and found satisfactory.

Electric light installations examined tested and placed in good order with new fittings. Wiring in stowhold, bridge accommodation, navigation light, forecabin and poop renewed. insulation resistance tested. The electric light equipment generally examined and tested under working conditions.

R. B. Grier.



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