

Rpt. 9.

No. 117950

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

Date of writing Report. 22 MAR 1949 When handed in at Local Office. 22 MAR 1949 (Received at London Office. 22 MAR 1949)

No. in Survey held at London Date. First Survey 28-2-49 Last Survey 7-3-49 (No. of Visits. 15)

Reg. Book. 95000 on the Machinery of the Wood, Iron or Steel Tw. Sc. SS "MAGDALENA"

Tonnage { Gross 17000 Vessel built at Belfast By whom Harland, Wolff & Co Year. Month.   
Net  Engines made at -do- By whom -do- When   
Nominal  Boilers, when made (Main) 1949 (Donkey) 1949 When   
Horse Power  Owners Royal Mail Lines Ltd Owners' Address   
No. of Main Boilers 2WT Managers  Port London Voyage   
No. of Donkey Boilers 2 If Surveyed Afloat on Dry Dock King George St  
Steam Pressure 570 lb (State name of Dock.)  
in Main Boilers 525 (WT)  
in Donkey Boilers

Last Report No.  Port Particulars of Examination and Repairs (if any) Bulge Damage - Repair

(Periodical Surveys, when held, must be reported in detail and verbatim in the terms of the Rules. State clearly the cause of Repairs, if any, and, in detail, 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 besides being detailed in the body of the report, should be briefly summarised at the end of the report. State also the dates and initials of any letters respecting this case.)

In 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

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

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

" " Donkey " "

If not, 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?

State latest date of internal examination of each boiler

Did the Surveyor examine the Safety Valves of the Main Boilers?

Present condition of funnel(s)

Did the Surveyor examine the Safety Valves of the Donkey Boilers?

To what pressure were they afterwards adjusted under steam?

Did the Surveyor examine all the manholes, doors and their fastenings of the Main Boilers?

To what pressure were they afterwards adjusted under steam?

Did the Surveyor examine the drain plugs of the Main Boilers?

and of the Donkey Boilers?

Did the Surveyor examine all the mountings of the Main Boilers?

and of the Donkey Boilers?

the screw shaft now been drawn and examined?

Has it a continuous liner?

Is an approved oil retaining appliance fitted at the after end?

as shaft now been changed?

If so, state reasons

Has the shaft now fitted been previously used?

Has it a continuous liner?

Is an approved oil retaining appliance fitted at the after end?

State date of examination of Screw Shaft

State the wear down in the

stern bush

Is electric light and/or power fitted?

If so, did the Surveyor examine the generators, motors, switchgear, cables and fuses?

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

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

Following Donkey Boiler repairs it is recommended the open rings of both Donkey Boilers be specially examined on vessels return to U.K.

At request of Owners representative attended to ascertain cause of damage to and the subsequent repairs of the Port main Foster Wheeler Water tube Boiler. It was stated on board that at 5.00 AM on the 25th February '49 ships personnel commenced raising steam in the Port W.T. Boiler and when steam had reached approx. 400 lbs/sq" at 10.00 AM the No 10 (from Forward) fire row tube on the saturated side, burst at about 3' 06" above the water drum. Before raising steam the Boiler had been filled to half glass and steam was raised in the normal manner.

At 3.30 pm entered and examined furnace (saturated side) and noted considerable overheating of water walls and distortion of number of tubes in the

## General Observations, Opinion, and Recommendation:—

(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, SS 3,11, E&MS 3,11 or LMC 3,11 or LMC 140 lb., FD, &c.)

seen, is in efficient condition and eligible in our opinion to remain as class Un-templated; subject to open rings of both Donkey Boilers being specially examined on vessels return to U.K. from present voyage and without special condition regarding tubes of the Port main Boiler

Survey Fee (per Section 29) £ 26 : 5 : 0 Fees applied for 22 MAR 1949

Special Damage or Repair Fee (if any) 10 : 10 : 0

(per Section 28.)

SUN. ATT. (27/2 + 6/5)

Travelling expenses (if chargeable) 12 : 12 : 0

(25.26.28 Feb + 7 March)

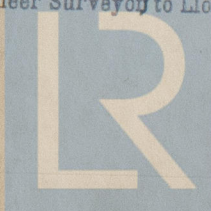
Committee's Minute FRI. 22 APR 1949

Assigned See minute on Bel F.E. 14714

Received by me,

R.J. Shanley W.Y. Mathison

Engineer Surveyor to Lloyd's Register of Shipping.



Lloyd's Register Foundation



## Tw. Sc. S.S. "MAGDALENA"

vicinity of the burst tube. The diameter of all water wall tubes were measured to ascertain the extent of swelling and it was noted that the increase in diameter of the tubes varied from  $\frac{1}{4}$ " to nil. Greatest increase being in vicinity of damaged tube. The burst was approx. 6" long and 4" across without any appreciable thinning of the tube in way of burst although the diameter below fracture was increased by  $\frac{1}{4}$ ".

Examination also made of furnace on superheat side and condition found to be satisfactory. The steam and water drums were examined internally and the appearance of the water drum indicated possible shortage of water.

All apparatus for the control of water level i.e. gauge glasses Weirs 'Robot' feed control and the low-level alarm system were opened out and carefully examined. The inboard gauge glass was found to have defects that might have resulted in a false level being recorded. The gauge glass had been forcibly turned without first slackening the locking nuts, resulting in the shearing of the locating pin. Consequently steam was admitted to the glass only by way of the small annulus surrounding the steam plug. From the fitting of the water side of the gauge glass, two foreign bodies (a roller of an expander and a piece of steel machine turning) were removed and although not restricting the flow when found, it is possible partial restriction might have been caused. The 'Robot' when opened appeared to be quite free although in a dirty condition. The Chief Engineer stated that the piston of the 'Robot' was sticking when the vessel arrived in harbour from Belfast. With regard to the low-level alarm, adjustments had been made and it was intended to test this apparatus when steam had reached full pressure.

Specimen lengths were cut from the defective tube, A10. the adjacent tube A9. and one other fire row tube A15. These tubes were subjected to mechanical tests i.e. tensile, flattening and drifting and proved satisfactory.

145 tubes in the outboard furnace were renewed as follows:

Outboard water wall	A3 now	2" O.D.	20 tubes
Rear wall	U	2"	6 "
"	V	2"	5 "
Fire row	A2	2"	27 "
"	B2	2"	20 "
"	C2	1 $\frac{1}{2}$ "	36 "
"	D2	1 $\frac{1}{2}$ "	23 "
"	E2	1 $\frac{1}{2}$ "	5 "
"	F1	1 $\frac{1}{2}$ "	3 "
TOTAL		145	"



## Tw. Sc. S.S. 'MAGDALENA'

All the distorted tubes noted in Belfast report have now been renewed. On completion the boiler was tested hydraulically to 700 lbs/sq. in. and all tubes found sound and free from leakage. At the first hydro. test the safety valves were found to be leaking and after overhaul they were satisfactorily adjusted at above stated pressure. (570 lbs/sq. in. & 525 lbs/sq. in. spt.).

All gauge glasses have been thoroughly overhauled and Port Boiler inboard gauge glass renewed.

The 'Robot' feed control gear has been examined by the makers representative & placed in good working order.

The low-level alarm system has been examined, readjusted and tested under full working conditions, found efficient.

## DONKEY BOILERS.

The starboard donkey boiler rope ring was fillet electric welded on water and fire landings to tube plate. The boiler was tested to 150 lbs/sq. in. hydro. pressure on completion and found sound & tight.

The Port donkey boiler rope ring was sandblasted, tested under steam at the working pressure, found tight and in view of this it was agreed with the Owners to waive the hydraulic test at this time.

It is recommended that the rope rings of both donkey boilers be examined on vessels return to U.K. from present voyage and in the meantime the boilers are considered efficient.

P.S.