

REPORT ON MACHINERY.

No. 12791

Received at London Office MON. AUG. 29 1921

4.

Writing Report 24 Aug 1921 When handed in at Local Office 26th Aug 1921 Port of Aberdeen

Survey held at Aberdeen Date, First Survey 6th Dec 1920 Last Survey 23rd Aug 1921

Book on the S.S. "Oriole"

(Number of Visits 44)

Surveyor A. Parkinson Built at Aberdeen By whom built J. Lewis & Co. N° 72 When built 1921

Machinery made at Aberdeen By whom made J. Lewis & Co. N° 168 when made 1921

Machinery made at Aberdeen By whom made J. Lewis & Co. N° 128 when made 1921

Indicated Horse Power Owners Gen. Steam Nav. Co. Ltd Port belonging to

Horse Power as per Section 28 84.3 83 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted No.

Engines, &c.—Description of Engines Triple Expansion No. of Cylinders 3 No. of Cranks 3

Cylinders 12 1/2, 21, 34 Length of Stroke 24 Revs. per minute 102 normal Dia. of Screw shaft 7.25 as per rule 7.5 as fitted Material of screw shaft Iron

screw shaft fitted with a continuous liner the whole length of the stern tube Yes Is the after end of the liner made water tight

propeller boss Yes If the liner is in more than one length are the joints burned Yes If the liner does not fit tightly at the part

the bearings in the stern tube, is the space charged with a plastic material insoluble in water and non-corrosive No space If two

are fitted, is the shaft lapped or protected between the liners Yes Length of stern bush 2-6 1/2

Tunnel shaft as per rule 6.34 as fitted none Dia. of Crank shaft journals as per rule 6.687 as fitted 4 Dia. of Crank pin 4 Size of Crank webs 12 3/4 x 4 1/2 Dia. of thrust shaft under

4 Dia. of screw 9-0 Pitch of Screw 11-3 No. of Blades 4 State whether moveable No Total surface 30 1/2

Feed pumps 2 Diameter of ditto 2 1/2 Stroke 12 Can one be overhauled while the other is at work Yes

Bilge pumps 2 Diameter of ditto 2 1/2 Stroke 12 Can one be overhauled while the other is at work Yes

Donkey Engines Two Sizes of Pumps 5 1/2 x 3 3/4 x 5 6 x 7 x 8 No. and size of Suctions connected to both Bilge and Donkey pumps

Engine Room one at 2 1/2 Two at 2 1/4 one at 2 5/8 stokehold one 2 1/2 In Holds, &c. Two at 2

Bilge Injections / sizes 3 Connected to condenser, or to circulating pump cp. Is a separate Donkey Suction fitted in Engine room of size Yes 2 1/2

Are the bilge suction pipes fitted with roses Yes Are the roses in Engine room always accessible Yes Are the sluices on Engine room bulkheads always accessible Yes

Are all connections with the sea direct on the skin of the ship Yes Are they Valves or Cocks Both

Are they fixed sufficiently high on the ship's side to be seen without lifting the stokehold plates Yes Are the Discharge Pipes above or below the deep water line above

Are they each fitted with a Discharge Valve always accessible on the plating of the vessel Yes Are the Blow Off Cocks fitted with a spigot and brass covering plate Yes

Are the pipes carried through the bunkers Hold Suctions How are they protected Wood Casings

Are all Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times Yes

Are the Bilge Suction Pipes, Cocks, and Valves arranged so as to prevent any communication between the sea and the bilges Yes

Is the Screw Shaft Tunnel watertight Yes Is it fitted with a watertight door Yes worked from Yes

Suppliers, &c.—(Letter for record S) Manufacturers of Steel David Colville & Sons Ltd Motherwell

Heating Surface of Boilers 1618 1573 Is Forced Draft fitted No No. and Description of Boilers One Single Ended

Working Pressure 180 lbs Tested by hydraulic pressure to 320 lbs Date of test 12-8-21 No. of Certificate 1009

Can each boiler be worked separately Yes Area of fire grate in each boiler 52.14 1/2 No. and Description of Safety Valves to

each boiler 2 direct Spring Area of each valve 5.93 Pressure to which they are adjusted Are they fitted with easing gear Yes

Least distance between boilers or uptakes and bunkers or woodwork INT Mean dia. of boilers 13-0 Length 10-6 Material of shell plates S

Thickness of shell plates 1 1/8 Range of tensile strength 26/32 lbs Are the shell plates welded or flanged No Descrip. of riveting: cir. seams D.R. lap.

Are the seams T.R.D.B.S Diameter of rivet holes in long. seams 1 3/16 Pitch of rivets 8 1/4 Lap of plates or width of butt straps 17 3/8

Percentage of strength of longitudinal joint rivets 88.9 plate 85.6 Working pressure of shell by rules 193 Size of manhole in shell 16 x 12

Are there compensating rings 7 x 1 1/4 No. and Description of Furnaces in each boiler 3 plain Material S Outside diameter 3-3 1/2

Length of plain part top 8.2 bottom 7.5 Thickness of plates crown 3/4 Description of longitudinal joint weld No. of strengthening rings one

Working pressure of furnace by the rules 180 Combustion chamber plates: Material S Thickness: Sides 1/16 Back 3/32 Top 1/16 Bottom 1/16

Thickness of stays to ditto: Sides 9 1/2 x 8 1/4 Back 9 1/2 x 8 Top 9 1/2 x 7 1/2 If stays are fitted with nuts or riveted heads nuts Working pressure by rules 192.9

Material of stays S Area at smallest part 1.76 Area supported by each stay 76 Working pressure by rules 185 End plates in steam space:

Material S Thickness 1 1/8 Pitch of stays 18 x 18 How are stays secured DN & W Working pressure by rules 185 Material of stays S

Area at smallest part 6.32 Area supported by each stay 324 Working pressure by rules 203 Material of Front plates at bottom S

Thickness 1 1/2 Material of Lower back plate S Thickness 29/32 Greatest pitch of stays 14 1/4 Working pressure of plate by rules 193

Diameter of tubes 3 1/2 Pitch of tubes 4 3/4 x 4 3/4 Material of tube plates S Thickness: Front 1 1/32 Back 27/32 Mean pitch of stays 9 1/2

Working pressure across wide water spaces 14 1/2 Working pressures by rules 181 Girders to Chamber tops: Material S Depth and

Thickness of girder at centre 8 1/4 x 9/16 Length as per rule 27 1/2 Distance apart 7 1/2 Number and pitch of stays in each 2 @ 9 1/4 9 1/2

Working pressure by rules 219 Steam dome: description of joint to shell Yes % of strength of joint Yes

Diameter Yes Thickness of shell plates Yes Material Yes Description of longitudinal joint Yes Diam. of rivet holes Yes

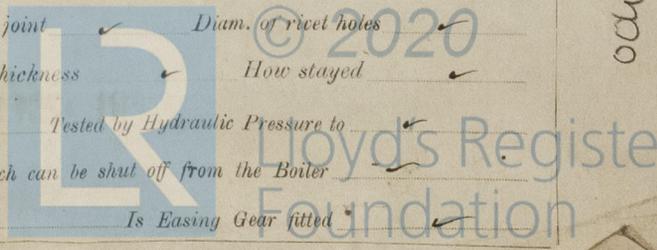
Pitch of rivets Yes Working pressure of shell by rules Yes Crown plates Yes Thickness Yes How stayed Yes

SUPERHEATER. Type Yes Date of Approval of Plan Yes Tested by Hydraulic Pressure to

Date of Test Yes Is a Safety Valve fitted to each Section of the Superheater which can be shut off from the Boiler Yes

Diameter of Safety Valve Yes Pressure to which each is adjusted Yes Is Easing Gear fitted Yes

001849-006851-0103



IS A DONKEY BOILER FITTED? *No*

If so, is a report now forwarded?

SPARE GEAR. State the articles supplied:— *2 Top end bolts + nuts. 2 bottom end bolts + nuts. 2 main bearing bolts + nuts. One set of coupling bolts + nuts. 1 main + 1 donkey check valve. 6 junk ring bolts + nuts. 1 set of valves for air, circulating, feed, & bilge pumps. 6 condenser tubes + 12 ferrules. 3 boiler tubes. 1 boiler safety valve spring. 4 gauge glasses. a quantity of iron. a quantity of assorted bolts + nuts. 1 cast iron propeller*

The foregoing is a correct description,

FOR JOHN LEWIS & SONS, LTD.,

J. I. Donald

Secy.

Manufacturer.

Dates of Survey while building	During progress of work in shops --	6/12/20. 10/12/20. 20/12/20. 29/12/20.	JAN. 1921	FEB 1921	MAR 1921	JULY	AUG
		12/7/21. 14/7/21. 26/7/21. 29/7/21.	7. 13. 20. 26. 31.	7. 14. 21.	1. 6.	11. 12. 14. 22. 23. 25. 24. 28.	1. 5. 6. 8. 10. 12. 17. 18.
		1/8/21. 2/8/21. 4/8/21. 9/8/21. 14/8/21. 18/8/21. 20/8/21. 22/8/21. 23/8/21.					

Total No. of visits *44.*

Is the approved plan of main boiler forwarded herewith *No*
Retained for Duplicate
" " " donkey " " "

Dates of Examination of principal parts—Cylinders *20-12-20* Slides *20-12-20* Covers *31-1-21* Pistons *7-1-21* Rods *7-1-21*
 Connecting rods *7-1-21* Crank shaft *2 under* Thrust shaft *7-1-21* Tunnel shafts Screw shaft *8-3-21* Propeller *8-3-21*
 Stern tube *8-3-21* Steam pipes tested *15-8-21* Engine and boiler seatings *13-7-21* Engines holding down bolts *27-7-21*
 Completion of pumping arrangements *22-8-21* Boilers fixed *16-8-21* Engines tried under steam *22-8-21*
 Completion of fitting sea connections *13-7-21* Stern tube *13-7-21* Screw shaft and propeller *13-7-21*
 Main boiler safety valves adjusted *22-8-21* Thickness of adjusting washers *P 7/16. S 7/16"*
 Material of Crank shaft *Steel* Identification Mark on Do. *896 JHM* Material of Thrust shaft *Steel* Identification Mark on Do. *1372A RR 7-8-21*
 Material of Tunnel shafts Identification Marks on Do. Material of Screw shafts *Iron* Identification Marks on Do. *1373A. RR 7-8-21*
 Material of Steam Pipes *Copper* Test pressure *360 lbs.*

Is an installation fitted for burning oil fuel *No* Is the flash point of the oil to be used over 150°F.
 Have the requirements of Section 49 of the Rules been complied with
 Is this machinery duplicate of a previous case *Yes.* If so, state name of vessel *"Beaulley Furth".*

General Remarks (State quality of workmanship, opinions as to class, &c. *These engines and boiler have been constructed under Special Survey, in accordance with the approved drawing, and the Rules of the Society. The materials and workmanship are sound and good. The machinery has been securely fitted on board the vessel and tried under steam with satisfactory results.*
The machinery is eligible, in my opinion, to have the Record LMC 8-21 in the Register Book.

It is submitted that this vessel is eligible for THE RECORD. + LMC. 8. 21 .CL.

Robt. Rae
30/8/21
J.M.

Robert Rae
Engineer Surveyor to Lloyd's Register of Shipping.

The amount of Entry Fee ...	£ 2 : 0 0	When applied for,
Special ...	£ 21 : 0 0	26 Aug 19.21
Donkey Boiler Fee ...	£ - : - :	When received,
Travelling Expenses (if any) £	- : - :	7. 9. 19. 21

Committee's Minute *FRI. 2 SEP. 1921*
Assigned *L.M.C. 8. 21*
C.L.

MACHINERY CERTIFICATE WRITTEN



Certificate (if required) to be sent to
The Surveyors are requested not to write on or below the space for Committee's Minute.