

REPORT ON MACHINERY

No. 12440.

Date of writing Report 22nd Apr. 1920 When handed in at Local Office 23rd Apr. 1920 Port of Aberdeen. Received at London Office SAT. APR. 24 1920

Survey held at Aberdeen. Date, First Survey 23rd Sept/19 Last Survey 16th Apr. 1920.
on the machinery of the S/S "RIVER TYNE." (Number of Visits 23.)

Master Aberdeen Built at Aberdeen By whom built John Lewis & Sons (83.) Tons { Gross Net } When built 1920.

Engines made at Aberdeen By whom made John Lewis & Sons Ltd (154) when made 1920.

Boilers made at do. By whom made do. do. (93) when made 1920.

Indicated Horse Power 83 Owners East Coast Transport Co. Port belonging to Newcastle-on-Tyne.
Horse Power as per Section 28 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 110 Dia. of Screw shaft 4 1/8" 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 no
propeller boss Yes If the liner is in more than one length are the joints burned 1 length If the liner does not fit tightly at the part no space
the bearings in the stern tube, is the space charged with a plastic material insoluble in water and non-corrosive no space If two no space

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

Tunnel shaft as per rule 6-37 Dia. of Crank shaft journals as per rule 6-68 Dia. of Crank pin 4" Size of Crank webs 12 3/4" x 4 1/2" Dia. of thrust shaft under 4"
as fitted none as fitted 4" State whether moveable no Total surface 30 sq

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 BALLAST 6" x 4" x 8" No. and size of Suctions connected to both Bilge and Donkey pumps GENERAL 5 1/2" x 3 1/2" x 5"

Engine Room 1 @ 2 1/2", 2 @ 2"; 1 @ 2" in Blk. Room In Holds, &c. 2 @ 2" in Hold / 1 @ 2 1/2" in aft-peak.

Bilge Injections 1 sizes 3" Connected to condenser, or to circulating pump C.P. As a separate Donkey Suction fitted in Engine room & size 1/2"
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 none
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
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.

How are they protected Strong wood Casings.

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

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

Screw Shaft Tunnel watertight no tunnel Is it fitted with a watertight door Yes worked from Yes

Engines, &c.—(Letter for record S) Manufacturers of Steel The Steel Coy. of Scotland. I.S.B.

Heating Surface of Boilers 15 1/2 sq Is Forced Draft fitted no No. and Description of Boilers One single ended

Working Pressure 180 lbs/sq. Tested by hydraulic pressure to 360 lbs/sq. Date of test 5. 3. 20. No. of Certificate 985

Can each boiler be worked separately Yes Area of fire grate in each boiler 52.14 sq No. and Description of Safety Valves to 2 Direct spring.
Area of each valve 5.94 sq Pressure to which they are adjusted 185 lbs/sq. Are they fitted with easing gear Yes

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

Thickness 1 1/8" Range of tensile strength 28/32 Are the shell plates welded or flanged no. Descrip. of riveting: cir. seams D.R. Lap.

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 1 1/8"

Percentages of strength of longitudinal joint rivets 88.9 Working pressure of shell by rules 193 Size of manhole in shell 16" x 12"
plate 85.6 Description of longitudinal joint Weld. No. of strengthening rings 1

Compensating ring in shell 1/2 x 1/4" No. and Description of Furnaces in each boiler 3 Plain. Material S Outside diameter 3'-3 1/2"
of plain part top 6'-10 1/2" Thickness of plates crown 3/4" Description of longitudinal joint Weld. No. of strengthening rings 1
bottom 6'-3 1/2" bottom 3/4" Thickness: Sides 1/16" Back 2 1/32" Top 1/16" Bottom 1/16"

Working pressure of furnace by the rules 181.4 Combustion chamber plates: Material S Thickness: Sides 1/16" Back 2 1/32" Top 1/16" Bottom 1/16"

Number 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 193

Material of stays S Area at smallest part 1.46 sq Area supported by each stay 4/6 sq Working pressure by rules 185.2 End plates in steam space: DOUBLE NUTS
Material S Thickness 1 1/8" Pitch of stays 18" x 18" How are stays secured WASHERS Working pressure by rules 185 Material of stays S

Area at smallest part 6.33 sq Area supported by each stay 324 sq 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" x 9 1/2" Working pressure of plate by rules 194

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 2 1/32" Mean pitch of stays 9 1/2" x 9 1/2"

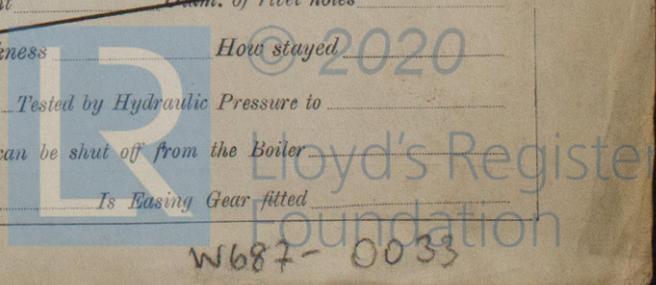
Working pressures across wide water spaces 14 1/2" Working pressures by rules 181.2 Girders to Chamber tops: Material S Depth and 8 1/4" x 9 1/16" (2) Length as per rule 2 1/2" Distance apart 7 1/2" Number and pitch of stays in each 2 @ 9 1/2"

Working pressure by rules 225 Steam dome: description of joint to shell NONE % of strength of joint

Thickness of shell plates Material Description of longitudinal joint Disam. of rivet holes

Working pressure of shell by rules Crown plates Thickness How stayed

Superheater. Type Date of Approval of Plan Tested by Hydraulic Pressure to Is a Safety Valve fitted to each Section of the Superheater which can be shut off from the Boiler
Date of Test Pressure to which each is adjusted Is Easing Gear fitted



W687-0033

IS A DONKEY BOILER FITTED? No. ✓ If so, is a report now forwarded? ✓

SPARE GEAR. State the articles supplied:— Two top and two bottom end bolts & nuts, two main bearing bolts & nuts, one set coupling bolts & nuts, one set each of air, circulating feed & bilge pump valves, one main & one donkey feed check valve, one safety valve spring, assorted bolts, nuts and iron of various sizes.

The foregoing is a correct description,
FOR JOHN LEWIS & SONS, LTD.,

James J. Donald

Manufacturer.

Dates of Survey while building { During progress of work in shops -- } 1919 Sept. 23. Oct. 1. 14. Nov. 8. Dec. 9. 12. 16. 22. 1920 Jan. 6. 13. 20. 26. Feb. 6. 26. 1921 March 3. 5. 19. 27.
{ During erection on board vessel -- } 1920 March 31. Apr. 8. 16.
Total No. of visits 23

Is the approved plan of main boiler forwarded herewith forwarded ^{no. previously} with Abn. Rpt. 12416.

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Dates of Examination of principal parts—Cylinders 26.1.20 Slides 26.1.20 Covers 26.1.20 Pistons 26.1.20 Rods 26.1.20
Connecting rods 26.1.20 Crank shaft LEITH Thrust shaft 26.2.20 Tunnel shafts none Screw shaft 26.2.20 Propeller 27.3.20
Stern tube 19.3.20 Steam pipes tested 8.4.20 Engine and boiler seatings 19.3.20 Engines holding down bolts 8.4.20
Completion of pumping arrangements 16.4.20 Boilers fixed 16.4.20 Engines tried under steam 16.4.20
Completion of fitting sea connections 19.3.20 Stern tube 31.3.20 Screw shaft and propeller 31.3.20
Main boiler safety valves adjusted 16.4.20 Thickness of adjusting washers Port. 3/8" Starb'd 11/32"
Material of Crank shaft Steel Identification Mark on Do. LLOYDS 4512 G.A.H Material of Thrust shaft Steel Identification Mark on Do. LLOYDS 1292 A 26/2/20 W.H.F.
Material of Tunnel shafts ✓ Identification Marks on Do. Material of Screw shafts Iron Identification Marks on Do. LLOYDS 1293 A 26/2/20 W.H.F.
Material of Steam Pipes Solid drawn Copper 3 1/2" bore x 9 1/4" G. Test pressure 360 lbs/sq. in.

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 S/S "BEAULY FIRTH" (Abn. Rpt. 12416) ✓

General Remarks (State quality of workmanship, opinions as to class, &c. These engines and boiler have been built under Special Survey in accordance with the Secretary's letter, the approved plan & the Rules and requirements of the Society.

The materials & workmanship are good.

The machinery has been securely fitted on board the vessel and tried under steam with satisfactory results. It is now eligible, in our opinion, to have notation of L.M.C. 4.20 in the Register Book.

It is submitted that this vessel is eligible for THE RECORD + L.M.C. 4.20 WES 30/4/20

JWD GRK

The amount of Entry Fee ... £ 1 : 0 :
Special ... £ 12 : 9 :
Donkey Boiler Fee ... £ : :
Travelling Expenses (if any) £ ✓ : :
When applied for, 19...
When received, 2/6/20 JWD

W. Fraser & W. Wilson
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute TUE. MAY. 11 1920

Assigned + L.M.C. 4.20

CERTIFICATE WRITTEN



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