

REPORT ON MACHINERY

No. 29498

WED. 23 AUG. 1916

Received at London Office

Date of writing Report 11-8-16 19 When handed in at Local Office 14-8-16 19 Port of Hull

No. in Survey held at Reg. Book 425 on the steel screw tugboat "Marconi" Date, First Survey 19/8/15 Last Survey 10-8-16 19

(Number of Visits 55 Gross 322 Tons Net 131

Master Built at Telby By whom built Cochran & Sons Ltd When built 1916-8

Engines made at Hull By whom made C. D. Holmes & Co. Ltd (1108) when made 1916-8

Boilers made at Hull By whom made C. D. Holmes & Co. Ltd when made 1916-8

Registered Horse Power Owners F. & J. Ross Ltd Port belonging to Hull

Nom. Horse Power as per Section 28 85 Is Refrigerating Machinery fitted for cargo purposes no Is Electric Light fitted yes

ENGINES, &c.—Description of Engines Triple expansion No. of Cylinders Three No. of Cranks 3

Dia. of Cylinders 13"-23"-37" Length of Stroke 26" Revs. per minute Dia. of Screw shaft as per rule 7.88" Material of screw shaft as fitted 8 1/4" Iron

Is the 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

in the 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

between the bearings in the stern tube, is the space charged with a plastic material insoluble in water and non-corrosive If two

liners are fitted, is the shaft lapped or protected between the liners Length of stern bush 35 1/2"

Dia. of Tunnel shaft as per rule 7.04" Dia. of Crank shaft journals as per rule 7.39" Dia. of Crank pin 7 1/2" Size of Crank webs 1 1/2" Dia. of thrust shaft under

collars 7 1/2" Dia. of screw 9-7 1/2" Pitch of Screw 11-0" No. of Blades 4 State whether moveable no Total surface 33 1/2"

No. of Feed pumps one Diameter of ditto 2 7/8" Stroke 14 3/4" Can one be overhauled while the other is at work yes 69.5 SHP

No. of Bilge pumps one Diameter of ditto 2 7/8" Stroke 14 3/4" Can one be overhauled while the other is at work yes

No. of Donkey Engines one 3" ejector Sizes of Pumps 6, 3 1/2 x 6 1/2" No. and size of Suctions connected to both Bilge and Donkey pumps

In Engine Room two 2" diam In Holds, &c. one 2" diam in each compartment

all suction also connected to ejector

No. of Bilge Injections one sizes 3 1/2" Connected to condenser or to circulating pump pump Is a separate Donkey Suction fitted in Engine room & size 3" ejector

Are all 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

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

What pipes are carried through the bunkers Forward suction How are they protected strong wooden 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

Dates of examination of completion of fitting of Sea Connections 30-11-15 of Stern Tube 30-11-15 Screw shaft and Propeller 6-12-15

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

BOILERS, &c.—(Letter for record S) Manufacturers of Steel J. Colville & Sons

Total Heating Surface of Boilers 1387# Is Forced Draft fitted no No. and Description of Boilers one single ended

Working Pressure 200 lbs Tested by hydraulic pressure to 400 lbs Date of test 10-7-16 No. of Certificate 3147

Can each boiler be worked separately Area of fire grate in each boiler 47.8# No. and Description of Safety Valves to

each boiler two spring loaded Area of each valve 4.9# Pressure to which they are adjusted 205 lbs Are they fitted with easing gear yes

Smallest distance between boilers or uptakes and bunkers or woodwork 6" lagged steam dia. of boilers 165" Length 10'-6" Material of shell plates steel

Thickness 1 1/4" Range of tensile strength 28-32 tons Are the shell plates welded or flanged no Descrip. of riveting: cir. seams double

long. seams R. & B. 1 Diameter of rivet holes in long. seams 1 1/32" Pitch of rivets 8 1/16" Lap of plates or width of butt straps 17 1/2"

Per centages of strength of longitudinal joint rivets 87.4 plate 84.88 Working pressure of shell by rules 201 Size of manhole in shell 16" x 12"

Size of compensating ring 7" x 1 1/4" No. and Description of Furnaces in each boiler three plain Material steel Outside diameter 40"

Length of plain part top 77 3/4" bottom 77 3/4" Thickness of plates crown 1 1/16" Description of longitudinal joint welded No. of strengthening rings

Working pressure of furnace by the rules 207 Combustion chamber plates: Material steel Thickness: Sides 23/32" Back 23/32" Top 3/4" Bottom 23/32"

Pitch of stays to ditto: Sides 10" x 8 1/2" Back 9 3/8" x 8 3/8" Top 11" x 8 1/2" If stays are fitted with nuts or riveted heads nuts Working pressure by rules 201

Material of stays steel Diameter at smallest part 2.07" Area supported by each stay 93.5# Working pressure by rules 200 End plates in steam space:

Material steel Thickness 1 1/32" Pitch of stays 19 1/2" x 8" How are stays secured D. & W. Working pressure by rules 200 Material of stays steel

Diameter at smallest part 7.5" Area supported by each stay 351# Working pressure by rules 222 Material of Front plates at bottom steel

Thickness 1" Material of Lower back plate steel Thickness 1" Greatest pitch of stays 16 1/2" x 13 1/2" Working pressure of plate by rules 205

Diameter of tubes 3 1/2" Pitch of tubes 4 7/8" x 5" Material of tube plates steel Thickness: Front 1" Back 7/8" Mean pitch of stays 9 3/4"

Pitch across wide water spaces 13 3/4" Working pressures by rules 203 lbs Girders to Chamber tops: Material steel Depth and

thickness of girder at centre 11 3/4" x 1 3/4" Length as per rule 37.22 Distance apart 11" Number and pitch of stays in each three 8 1/2"

Working pressure by rules 204 Superheater or Steam chest; how connected to boiler Can the superheater be shut off and the boiler worked

separately Diameter Length Thickness of shell plates Material Description of longitudinal joint Diam. of rivet

holes Pitch of rivets Working pressure of shell by rules Diameter of flue Material of flue plates Thickness

If stiffened with rings Distance between rings Working pressure by rules End plates: Thickness How stayed

Working pressure of end plates Area of safety valves to superheater Are they fitted with easing gear

Lloyd's Register Foundation

W 197-0080

IS A DONKEY BOILER FITTED? *no*

If so, is a report now forwarded? ☒

SPARE GEAR. State the articles supplied:— *Two top end bolts & nuts, two bottom end bolts & nuts, two main bearing bolts & nuts, one set of coupling bolts & nuts, one set of air, fuel & oil pump valves, one main & one donkey check valve, one fuel pump plunger, two valve spindle bolts & nuts, 6 gunking studs & nuts, two eccentric rod bolts & nuts, two eccentric strap bolts & nuts, two top & two bottom end bolts for centrifugal pump, one impeller shaft & a quantity of bolts & nuts & nuts of various sizes*

The foregoing is a correct description,

ARTHUR JONES
DIRECTOR

Manufacturer.

Dates of Survey while building { During progress of work in shops -- *1915: Aug 19, Oct 19, Nov 1, 2, 16, 18, 24, 25, 27, 30, Dec 1, 6, 8, 22, 31, 1916: Jan 20*
During erection on board vessel -- *Feb 24, 29, Mar 3, 8, 10, 14, 21, 23, Apr 3, 11, 13, 17, 27, May 5, 9, 15, 23, 25, Jun 1, 4*
Total No. of visits *55*

Is the approved plan of main boiler forwarded herewith? *yes*

Dates of Examination of principal parts:—Cylinders *15-6-16* Slides *26-6-16* Covers *15-6-16* Pistons *6-6-16* Rods *15-6-16*
Connecting rods *15-6-16* Crank shaft *15-6-16* Thrust shaft *15-6-16* Tunnel shafts *✓* Screw shaft *1-12-15* Propeller *1-12-73*
Stern tube *27-11-15* Steam pipes tested *26-7-16* Engine and boiler seatings *30-11-15* Engines holding down bolts *13-7-16*
Completion of pumping arrangements *10-8-16* Boilers fixed *27-7-16* Engines tried under steam *10-8-16*
Main boiler safety valves adjusted *2-8-16* Thickness of adjusting washers *P 1/4 S 5/16*
Material of Crank shaft *Iron* Identification Mark on Do. *1594 FLS* Material of Thrust shaft *Iron* Identification Mark on Do. *1595 FLS*
Material of Tunnel shafts *✓* Identification Marks on Do. *✓* Material of Screw shafts *Iron* Identification Marks on Do. *1545 FLS*
Material of Steam Pipes *solid drawn copper* Test pressure *400 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 *no* If so, state name of vessel

General Remarks (State quality of workmanship, opinions as to class, &c.) *The machinery of this vessel has been constructed under special survey in accordance with the approved plans & the rules of this Society, the materials & workmanship are good. The Boiler & steam pipes have been tested as above & found sound & good. The machinery has been properly fitted & secured on board the vessel & on completion tried under steam & found satisfactory. The safety valves have been adjusted under steam & tested for accumulation which did not exceed 2 1/2 lbs. In my opinion the vessel is eligible for the record + L.R.C. 8-16*

It is submitted that
this vessel is eligible for
THE RECORD + L.M.C. 8.16.

J.R.R.

J.W.D.

The amount of Entry Fee ... £ *1 : 0 :* When applied for, *22/8 1916*
Special ... £ *12 : 16 :*
Donkey Boiler Fee ... £ *8 - 2 :* When received, *31-8-1916*
Travelling Expenses (if any) £ *8 - 2 :*

Committee's Minute

FRI 25 AUG 1916

Assigned

+ L.R.C. 8.16

Frank L. Sturgeon
Engineer-Surveyor to Lloyd's Register of British & Foreign Shipping

25/8/16

MINUTE CERTIFICATE
ISSUED



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