

REPORT ON MACHINERY

No. 28877

MON, 18 OCT, 1915

Received at London Office

Date of writing Report 20-9-15 to 20-9-15 Port of Hull

No. in Survey held at Hull Date, First Survey 24-3-15 Last Survey 17-9-15 19

Reg. Book. 128 on the steel lined steamer Magneta (Number of Plates 33 322

Master Built at Lelby By whom built Cochrane & Sons Ltd Tons Gross 322 Net 130

Engines made at Hull By whom made C. D. Holmes & Co Ltd (1910) when made 1915-9

Boilers made at Hull By whom made C. D. Holmes & Co Ltd when made 1915-9

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

Nom. Horse Power as per Section 28 87 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 Three

Dia. of Cylinders 13"-23"-37" Length of Stroke 26" Revs. per minute Dia. of Screw shaft as per rule 7.68" Material of screw shaft 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 yes If two

liners are fitted, is the shaft lapped or protected between the liners Length of stern bush 2'-11 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 4 1/2" x 14 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 ft

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

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 4 3/4" Sizes of Pumps 6" x 3 1/2" x 6" Flywheel No. and size of Suctions connected to both Bilge and Donkey pumps

In Engine Room Two 2" dia. In Holds, &c. one 2" in each compartment also

connected to ejecta

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

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

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 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 28-6-15 of Stern Tube 28-6-15 Screw shaft and Propeller 28-6-15

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

BOILERS, &c.—(Letter for record 8) Manufacturers of Steel Lawrie & Lloyd

Total Heating Surface of Boilers 1435 ft 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 15-6-15 No. of Certificate 3085

Can each boiler be worked separately yes Area of fire grate in each boiler 47 ft No. and Description of Safety Valves to

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

Smallest distance between boilers on upper and lower decks 8" Mean dia. of boilers 165" Length 10'-6" Material of shell plates steel

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

long. seams 7 R & B 1 Diameter of rivet holes in long. seams 1 3/8" Pitch of rivets 8 7/8" Lap of plates or width of butt straps 17 1/2"

Per centages of strength of longitudinal joint rivets 84.4% Working pressure of shell by rules 201 lbs Size of manhole in shell 16" x 12"

Size of compensating ring 7" x 1 1/8" No. and Description of Furnaces in each boiler three plain Material steel Outside diameter 40"

Length of plain part top 77 1/2" Thickness of plates crown 3 13/16" Description of longitudinal joint welded No. of strengthening rings

Working pressure of furnace by the rules 207 Combustion chamber plates: Material steel Thickness: Sides 2 3/32" Back 2 3/32" Top 3/4" Bottom 2 3/32"

Pitch of stays to ditto: Sides 10" x 8 1/2" Back 9 3/4" x 8 1/2" 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 sq. Working pressure by rules 200 End plates in steam space:

Material steel Thickness 1 1/2" Pitch of stays 9 1/2" x 15" How are stays secured R. H. & V Working pressure by rules 200 Material of stays steel

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

Thickness 1" Material of Lower back plate steel Thickness 1" largest washers fitted 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 2 1/2" 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 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 yes Diameter yes Length yes Thickness of shell plates yes Material yes Description of longitudinal joint yes Diam. of rivets

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

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

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

W700-0081

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 main & one donkey check valve, one set of air, feed & bilge pump valves, one impulse check valve, one feed pump ram, one safety valve spring, one set of piston studs & nuts, one impeller shaft, 6 condenser tubes top & bottom end bolts for centrifugal pump, & a quantity of bolts & nuts & iron of various sizes*

The foregoing is a correct description,

per **CHARLES D. HOLMES & CO. LTD.**

Arthur Holmes **DIRECTOR** *Manufacturer.*

Dates of Survey while building { During progress of work in shops -- } *1915:— Mar 24, Apr 9, May 7, 18, 21, June 3, 15, 19, 21, 25, 28, 29, Jul 7, 12, 14, 20, 22, 26, 28, Aug. 6, 10, 13, 16, 19, 26, Sep 3, 4, 6, 8, 10, 11, 16, 17,*
{ During erection on board vessel -- }
Total No. of visits *33*

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

" " " donkey " " " ☒

Dates of Examination of principal parts—Cylinders *25-4-15* Slides *10-8-15* Covers *22-7-15* Pistons *13-8-15* Rods *10-8-15*

Connecting rods *6-8-15* Crank shaft *28-7-15* Thrust shaft *28-7-15* Tunnel shafts ☒ Screw shaft *19-6-15* Propeller *21-6-15*

Stern tube *28-6-15* Steam pipes tested *8-9-15* Engine and boiler seatings *28-6-15* Engines holding down bolts *8-9-15*

Completion of pumping arrangements *16-9-15* Boilers fixed *8-9-15* Engines tried under steam *16-9-15*

Main boiler safety valves adjusted *11-9-15* Thickness of adjusting washers *5/16" Port 3/16" Starboard*

Material of Crank shaft *Iron* Identification Mark on Do. *515 FLS* Material of Thrust shaft *Iron* Identification Mark on Do. *70P6D*

Material of Tunnel shafts ☒ Identification Marks on Do. ☒ Material of Screw shafts *Iron* Identification Marks on Do. *1459 Jg*

Material of Steam Pipes *Solid drawn copper* Test pressure *400*

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 & on completion was tested under steam under full working conditions & found satisfactory. The safety valves have been adjusted under steam & tested for accumulation which did not exceed 2 1/5 lbs.*

In my opinion the vessel is eligible for the next L.C. 9-15.

Please return the boiler plan for dealing with sister vessels

It is submitted that this vessel is eligible for THE RECORD + LMC 9.15.

The amount of Entry Fee ... £ 1 : 0 :
Special ... £ 3 : 1 :
Donkey Boiler Fee ... £
Travelling Expenses (if any) £ 4/2

When applied for, *16.10.15*

When received, *29/10/15*

Committee's Minute *TUE. 19 OCT. 1915*

Assigned *Lmb 9 15*

MACHINERY CERTIFICATE
WRITTEN

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