Rpt. 4.

# REPORT ON MACHINERY.

No. 24266

Received at London Office THU. OCT. 5 – 1911

Date of writing Report ____ 19__ When handed in at Local Office 3 - 10 - 1911 Port of Hull

No. in Reg. Book. 20 Survey held at Hull Selby Date, First Survey Feb. 9th Last Survey 30th Sept 1911 (Number of Visits 36)

Built Steel Sc. K. Lord Knollys Tons Gross 285 Net 114

Master ____ Built at Selby By whom built Cochrane & Sons When built 1911

Engines made at Hull By whom made ____ when made 1911

Boilers made at Hull By whom made Charles D. Holmes & Co Ltd when made 1911

Registered Horse Power ____ Owners Yorkshire Steam Fishing Co Ltd Port belonging to Hull

Nom. Horse Power as per Section 28 75 ✓ 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 ✓

Dia. of Cylinders 12¾" – 22" – 36" ✓ Length of Stroke 24" ✓ Revs. per minute 113 ✓ Dia. of Screw shaft as per rule 7.44" ✓ as fitted 7.75" Material of screw shaft I ✓

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 36" ✓

Dia. of Tunnel shaft as per rule 6.7 ✓ as fitted ____ Dia. of Crank shaft journals as per rule 7.06 ✓ as fitted 7.25 Dia. of Crank pin 7.25 Size of Crank webs 14" × 4¾" ✓ 14" × 4 2/8" Dia. of thrust shaft under collars 7.25" ✓ Dia. of screw 9'-0" ✓ Pitch of Screw 11'-0" ✓ No. of Blades 4 ✓ State whether moveable No ✓ Total surface 29 ☐ft ✓

No. of Feed pumps One ✓ Diameter of ditto 2⅜" ✓ Stroke 14¼" ✓ Can one be overhauled while the other is at work —

No. of Bilge pumps One ✓ Diameter of ditto 2⅜" ✓ Stroke 14¼" ✓ Can one be overhauled while the other is at work —

No. of Donkey Engines One ✓ Sizes of Pumps 6" × 4¼" × 6" ✓ No. and size of Suctions connected to both Bilge and Donkey pumps In Engine Room Two 2", one 2½", One 3". ✓ In Holds, &c. One each 2", to fore hold, slush well, & spare bunker, also Ejector to bilges, Injector to boiler, and a separate ✓ Centrifugal Circulating pump ✓

No. of Bilge Injections 1 ✓ sizes 3" ✓ Connected to condenser, or to circulating pump pmp ✓ Is a separate Donkey Suction fitted in Engine room & size Yes 2½" 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 Hold suction ✓ How are they protected Wood casing ✓

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 26.7.11 of Stern Tube 26.7.11 Screw shaft and Propeller 26.7.11

Is the Screw Shaft Tunnel watertight None ✓ Is it fitted with a watertight door — worked from — ✓

**BOILERS, &c.**—(Letter for record S ✓) Manufacturers of Steel Phoenix Akt. Ges. Abt. Horde Verein ✓

Total Heating Surface of Boilers 1180 ☐ft ✓ Is Forced Draft fitted No ✓ No. and Description of Boilers One Cyl. Multi. Single Ended

Working Pressure 200 lbs ✓ Tested by hydraulic pressure to 400 lbs ✓ Date of test 16.8.11 No. of Certificate 1834

Can each boiler be worked separately — Area of fire grate in ~~each~~ boiler 39 ☐ft ✓ No. and Description of Safety Valves to ~~each~~ boiler Two Spring ✓ Area of each valve 3.94 ☐" ✓ Pressure to which they are adjusted 185 lbs ✓ Are they fitted with easing gear Yes ✓

Smallest distance between boilers or uptakes and bunkers or woodwork 7" ✓ ~~Mean~~ Int. dia. of boilers 12'-9" ✓ Length 10'-6" ✓ Material of shell plates S ✓

Thickness 1 5/32" ✓ Range of tensile strength 28 tons ✓ Are the shell plates welded or flanged No ✓ Descrip. of riveting: cir. seams L.D. ✓

long. seams D.B.S.T.R. ✓ Diameter of rivet holes in long. seams 1 3/16" ✓ Pitch of rivets 8" ✓ ~~Lap of plates or~~ width of butt straps 18" ✓

Per centages of strength of longitudinal joint rivets 88.8 plate 85.0 Working pressure of shell by rules 201 lbs Size of manhole in shell 16" × 12" ✓

Size of compensating ring 7" × 1 5/32" ✓ No. and Description of Furnaces in ~~each~~ boiler Two plain ✓ Material S ✓ Outside diameter 3'-8 5/8" ✓

Length of plain part top 5'-4½" bottom ____ Thickness of plates crown 13/16" ✓ bottom ____ Description of longitudinal joint Welded ✓ No. of strengthening rings 0 ✓

Working pressure of furnace by the rules 200 lbs Combustion chamber plates: Material S ✓ Thickness: Sides 23/32" ✓ Back 23/32" ✓ Top 23/32" ✓ Bottom 23/32" ✓

Pitch of stays to ditto: Sides 9½" × 8½" ✓ Back 9 5/8" × 9⅛" ✓ Top 10" × 8½" ✓ If stays are fitted with nuts or riveted heads N. ✓ Working pressure by rules 203 lbs

Material of stays S ✓ Diameter at smallest part 1 5/8" ✓ Area supported by each stay 87.8 ☐" Working pressure by rules 212 lbs End plates in steam space:

Material S ✓ Thickness 1 3/16" ✓ Pitch of stays 18" × 18" ✓ How are stays secured D.N. ✓ washers 8" × ¾" Working pressure by rules 206 lbs Material of stays S ✓

~~Diameter~~ area at smallest part 6.33 ☐" Area supported by each stay 324 ☐" Working pressure by rules 203 lbs Material of Front plates at bottom S

Thickness 15/16" Material of Lower back plate S ✓ Thickness 31/32" ✓ Greatest pitch of stays 15" × 9 5/8" ✓ Working pressure of plate by rules 210 lbs

Diameter of tubes 3½" ✓ Pitch of tubes 5" × 4 4/8" ✓ Material of tube plates S ✓ Thickness: Front 15/16" ✓ Back 7/8" ✓ Mean pitch of stays 9 7/8" ✓

Pitch across wide water spaces 14¾" ~~and~~ Working pressures by rules 283 lbs Girders to Chamber tops: Material S Depth and thickness of girder at centre 9½" × 2" ✓ Length as per rule 3'-0" ✓ Distance apart 10" ✓ Number and pitch of stays in each Three 8½" ✓

Working pressure by rules 194 lbs ~~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 ____



006654-006665-0175

## VERTICAL DONKEY BOILER— Manufacturers of Steel

No. Description

Made at By whom made When made Where fixed

Working pressure tested by hydraulic pressure to Date of test No. of Certificate Fire grate area Description of Safety Valves No. of Safety Valves Area of each Pressure to which they are adjusted Date of adjustment

If fitted with easing gear If steam from main boilers can enter the donkey boiler Dia. of donkey boiler Length

Material of shell plates Thickness Range of tensile strength Descrip. of riveting long. seams

Dia. of rivet holes Whether punched or drilled Pitch of rivets Lap of plating Per centage of strength of joint Rivets Plates

Working pressure of shell by rules Thickness of shell crown plates Radius of do. No. of stays to do. Dia. of stays

Diameter of furnace Top Bottom Length of furnace Thickness of furnace plates Description of joint

Working pressure of furnace by rules Thickness of furnace crown plates Radius of do. Stayed by

~~Diameter of uptake~~ Thickness of uptake plates Thickness of water tubes Dates of survey

**SPARE GEAR.** State the articles supplied :— Two each top ✓ and bottom end connecting rod bolts and nuts ✓ two main bearing bolts and nuts ✓ one set coupling bolts and nuts ✓ one set each air, feed and bilge pump valves ✓ iron various sizes & a quantity of assorted bolts nuts etc ✓

*The foregoing is a correct description,*

p. pro CHARLES D. HOLMES & Co. LTD.

*Manufacturer.*

Arthur Holmes DIRECTOR

Dates of Survey while building — During progress of work in shops — 1911 :- Feb 9. Mar 28. Apr 6. May 3. 8. 15. 29. 31. Jun 7. 30 July 7. 10. 18. 20. 21. 22. 26. 28.

During erection on board vessel — Aug 2. 10. 11. 14. 16. 17. 21. 29. Sep. 4. 11. 16. 18. 20. 21. 22. 25. 28. 30.

Total No. of visits 36

Is the approved plan of main boiler forwarded herewith Yes ✓

" " " donkey " " "

**Dates of Examination of principal parts**—Cylinders 14 8 11 Slides 4 9 11 Covers 17 8 11 Pistons 2 8 11 Rods 14 8 11

Connecting rods 4 9 11 Crank shaft 2 8 11 Thrust shaft 4 9 11 ~~Tunnel shafts~~ Screw shaft 21 7 11 Propeller 26 7 11

Stern tube 18 7 11 Steam pipes tested 21 9 11 Engine and boiler seatings 26 7 11 Engines holding down bolts 28 9 11

Completion of pumping arrangements 28 9 11 Boilers fixed 25 9 11 Engines tried under steam 28 9 11

Main boiler safety valves adjusted 25 9 11 Thickness of adjusting washers 5/16" 5/16"

Material of Crank shaft S ✓ Identification Mark on Do. 60 P. 758 TGD 2 8 11 Material of Thrust shaft S Identification Mark on Do. 2969 758 B. 4 9 11

~~Material of Tunnel shafts~~ ~~Identification Marks on Do.~~ Material of Screw shafts I Identification Marks on Do. 4152 MR. 758 B. 21 7 11

Material of Steam Pipes Solid drawn copper ✓ Test pressure 400 lbs per sq. inch ✓

**General Remarks** (State quality of workmanship, opinions as to class, &c. The engines and boilers of this vessel have been constructed under special survey in accordance with the Societys Rules, the materials and workmanship are sound and good. The boilers tested by hydraulic pressure, and with the engines secured on board and tested under steam, they are now in good order, and safe working condition and respectfully submitted as being eligible in our opinion to be classed with the notation of ✓ + LMC 6.9.11 in the Register Book.

It is submitted that this vessel is eligible for THE RECORD +LMC 9.11

AR

JWR 6/10/11

Certificate (if required) to be sent to Hull

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

| | | | |
|---|---|---|---|
| The amount of Entry Fee | £ 1 | When applied for, 4.10.- 19.11 | |
| Special | £ 11 5 | | |
| Donkey Boiler Fee | £ | When received, 31.10 19.11 | |
| Travelling Expenses (if any) | £ 8 2 | | |

*Committee's Minute*

*Assigned* FRI OCT 6 - 1911 +LMC 6.9.11

James Barclay. *Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.*

MACHINERY CERTIFICATE WRITTEN.