Rpt. 4.

REPORT ON MACHINERY.

No. 16811

Port of Hull

Received at London Office 19

No. in Reg. Book. 27 Copy Survey held at Hull Date, first Survey Dec. 9/04 Last Survey 16th May 1905 (Number of Visits 53)

on the Steel Sc K "Warter Priory" Tons Gross 299 Net 113

Master Built at Hull By whom built Earles S. & E 6d Ld When built 1905

Engines made at Hull By whom made Messrs Charles D. Holmes & Co when made 1905

Boilers made at Hull By whom made Messrs Charles D. Holmes & Co when made 1905

Registered Horse Power Owners Hull S. F. & I Co Ld Port belonging to Hull

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

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

Dia. of Cylinders 13" ~ 22" ~ 36" Length of Stroke 27" Revs. per minute 106 Dia. of Screw shaft as per rule 7·84 as fitted 8¼" 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 burned ~~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 38"

Dia. of ~~Tunnel~~ plain part of thrust shaft as per rule 7·07" as fitted 7½" Dia. of Crank shaft journals as per rule 7·42" as fitted 7¾" Dia. of Crank pin 7¾" Size of Crank webs 14¾" × 5¾" Dia. of thrust shaft under collars 7¾" Dia. of screw 9'-6" ✓ Pitch of screw 11'-6" & 12'-6" No. of blades 4 State whether moveable No Total surface 30 □ft

No. of Feed pumps Two ✓ Diameter of ditto 2½" Stroke 18" Can one be overhauled while the other is at work Yes

No. of Bilge pumps Two ✓ Diameter of ditto 2½" Stroke 18" Can one be overhauled while the other is at work Yes

No. of Donkey Engines 2 Sizes of Pumps No. and size of Suctions connected to both Bilge and Donkey pumps

In Engine Room Two 2" ✓ In Holds, &c. One 2" ✓ to fish hold, & fore hold, and ejector suction from Eng Room bilge & holds ✓

No. of bilge injections 1 sizes 3½ Connected to condenser, or to circulating pump pump Is a separate donkey suction fitted in Engine room & size Yes 2"

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 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

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

When were stern tube, propeller, screw shaft, and all connections examined in dry dock 16·5·05 Is the screw shaft tunnel watertight None

~~Is it fitted with a watertight door~~ ~~worked from~~

BOILERS, &c.— (Letter for record S.) Total Heating Surface of Boilers 1420 □ft Is forced draft fitted No

No. and Description of Boilers One Cyl. Multi Working Pressure 200 lbs Tested by hydraulic pressure to 400 lbs

Date of test 23·3·05 ~~Can each boiler be worked separately~~ Area of fire grate in ~~each~~ boiler 45 □ft No. and Description of safety valves to each boiler Two Spring 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 8" ~~Mean~~ Ex dia. of boilers 13'-2⅜" Length 10'-7⅞ Material of shell plates Steel

Thickness 1 3/16" Range of tensile strength 29 32 tons ~~Are they welded or flanged~~ Descrip. of riveting: cir. seams L D long. seams D.B.S.R

Diameter of rivet holes in long. seams 1 3/16" Pitch of rivets 7 9/16" ~~Lap of plates~~ or width of butt straps 17½"

Per centages of strength of longitudinal joint rivets 92· plate 84·3 Working pressure of shell by rules 207 lbs Size of manhole in shell 16" × 12"

Size of compensating ring 9" × 1 3/16" No. and Description of Furnaces in each boiler 3 plain Material Steel Outside diameter 37½"

Length of plain part top 5'-11" bottom Thickness of plates crown 3/4" bottom Description of longitudinal joint welded No. of strengthening rings 0

Working pressure of furnace by the rules 227 lbs Combustion chamber plates: Material Steel Thickness: Sides 11/16" Back 11/16" Top 11/16" Bottom 11/16"

Pitch of stays to ditto: Sides 7½" Back 7½" Top 7½" If stays are fitted with nuts or riveted heads Nuts Working pressure by rules 290 lbs

Material of stays Steel Diameter at smallest part 1 5/8" Area supported by each stay 56·25 □" Working pressure by rules 331 lbs End plates in steam space:

Material Steel Thickness 1 1/16" Pitch of stays 16" × 16" How are stays secured D. & W's Working pressure by rules 208 lbs Material of stays Steel

Diameter at smallest part 2 13/16" Area supported by each stay 256 □" Working pressure by rules 242 lbs Material of Front plates at bottom Steel

Thickness 15/16" Material of Lower back plate Steel Thickness 15/16" Greatest pitch of stays 15" Working pressure of plate by rules 216 lbs

Diameter of tubes 3¼" Pitch of tubes 4 5/8" Material of tube plates Steel Thickness: Front 15/16" Back 15/16" Mean pitch of stays 9¼"

Pitch across wide water spaces 14" Working pressures by rules 200 lbs Girders to Chamber tops: Material Iron Depth and thickness of girder at centre 10½" × 2" Length as per rule 36" Distance apart 8" & 9" Number and pitch of Stays in each 3 ~ 7½"

Working pressure by rules 214 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

DONKEY BOILER— No. ____ Description ____

Made at ____ By whom made ____ When made ____ Where fixed ____

Working pressure ____ tested by hydraulic pressure to ____ No. of Certificate ____ Fire grate area ____ Description of safety valves ____

No. of safety valves ____ Area of each ____ Pressure to which they are adjusted ____ 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 ____ 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 ____ Thickness of furnace crown plates ____ Stayed by ____ Working pressure of shell by rules ____

Working pressure of furnace by rules ____ Diameter of uptake ____ Thickness of uptake plates ____ Thickness of water tubes ____

SPARE GEAR. State the articles supplied :— Two each top bottom end connecting rod bolts nuts, two main bearing bolts nuts, one set coupling bolts nuts, one set each, air, circulating (Centrifugal) feed bilge pump valves, & quantity of assorted bolts nuts

The foregoing is a correct description,

Charles D. Holmes & Co Manufacturer.

Dates of Survey while building — During progress of work in shops - - } 1904:- Dec. 9. 16. 20 1905:- Jan 5. 11. 16. 18. 19 20. 25. 26. Feb 1. 2. 3. 6. 7. 13. 14. 15. 16. 17. 22. 23

During erection on board vessel - - } Feb 27 Mar 1 2. 3. 4. 6. 7. 9. 13. 17. 18. 22. 23. 28. 31 Apr 1. 3. 5. 11. 13. 14. 18. 19. 26. 27. May 1. 2. 8. May 12. 16.

Total No. of visits 53.

Is the approved plan of main boiler forwarded herewith Yes

" " " donkey " " " ____

General Remarks (State quality of workmanship, opinions as to class, &c. The machinery and boiler) of this vessel have been inspected throughout construction, in accordance with the Societys Rules. The materials and workmanship are good. The boiler tested by hydraulic pressure, and with the engines placed on board and tested under steam. They are now in good order and safe working condition and respectfully submitted as being eligible in my opinion to be classed with the notification of ✠ L. M. C 5.05 in the Register Book.

It is submitted that this vessel is eligible for THE RECORD ✠ L.M.C. 5.05

E.M.S.

23.5.05

23.5.05

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

The amount of Entry Fee.. £ 1 : — : —

Special .. .. .. £ 12 : 15 : —

Donkey Boiler Fee .. .. £ — : — : —

Travelling Expenses (if any) £ — : — : —

When applied for, 22/5/1905

When received, 31.5.05

B 1.6.05

James Barclay

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

Committee's Minute FRI. 26 MAY 1905

Assigned ✠ LMC 5.05

MACHINERY CERTIFICATE WRITTEN.