

Rpt. 4.

REPORT ON MACHINERY

No. 7128.

FUE. NOV. 21, 1911

Received at London Office

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No. in Survey held at *Middlesbrough* Date, First Survey *28th Sept 1910* Last Survey *21 Nov 1911*

Reg. Book. *45* on the *S.S. "Jesse"* (Number of Visits *68*) (Gross *533*) (Net *238*)

Master *Goole* Built at *Goole* By whom built *Goole S.B. & R.C. Ltd* Tons *238* When built *1911*

Engines made at *Middlesbrough* By whom made *Richardsons, Westgarth & Co. Ltd* when made *1911*

Boilers made at *do* By whom made *do* when made *1911*

Registered Horse Power *78* Owners *C. P. Hutchinson* Port belonging to *Hull*

Tom. Horse Power as per Section 28 *78* Is Refrigerating Machinery fitted for cargo purposes *No* Is Electric Light fitted *No*

GINES, &c.—Description of Engines *Triple Expansion* No. of Cylinders *3* No. of Cranks *3*

Dia. of Cylinders *13", 21", 35"* Length of Stroke *24"* Revs. per minute *7.59* Dia. of Screw shaft as per rule *7.59* as fitted *8.4* Material of screw shaft *Steel*

Is the screw shaft fitted with a continuous liner the whole length of the stern tube *No liners* Is the after end of the liner made water tight

the propeller boss *Cedewall* If the liner is in more than one length are the joints 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 *3'-0"*

Dia. of Tunnel shaft as per rule *5.93* as fitted *6.5* Dia. of Crank shaft journals as per rule *6.2* as fitted *6.83* Dia. of Crank pin *7"* Size of Crank webs *1 1/2 x 4 3/4* Dia. of thrust shaft under

collars *7"* Dia. of screw *9.9* Pitch of Screw *11'-0"* No. of Blades *4* State whether moveable *No* Total surface *30 sq. ft.*

No. of Feed pumps *2* Diameter of ditto *2 1/2"* Stroke *12"* Can one be overhauled while the other is at work *yes*

No. of Bilge pumps *2* Diameter of ditto *3"* Stroke *12"* Can one be overhauled while the other is at work *yes*

No. of Donkey Engines *Two* Sizes of Pumps *6" x 6" x 6" 4 1/2" x 2 1/2" x 5"* No. and size of Suctions connected to both Bilge and Donkey pumps

in Engine Room *Two 2 1/2"* In Holds, &c. *Forward one 2 1/2", aft two 2 1/2"*

Tunnel well one *2 1/2"*

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

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 *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*

That pipes are carried through the bunkers *None* How are they protected *✓*

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 *9-10-11* of Stern Tube *1-11-11* Screw shaft and Propeller *1-11-11*

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

ILERS, &c.—(Letter for record *(5)* Manufacturers of Steel *John Spencer Sons Ltd.*

Total Heating Surface of Boilers *1386 sq. ft.* Is Forced Draft fitted *No* No. and Description of Boilers *One S.E. cyl. mult.*

Working Pressure *180 lbs* Tested by hydraulic pressure to *360 lbs* Date of test *1-6-11* No. of Certificate *4663*

Can each boiler be worked separately *✓* Area of fire grate in each boiler *46 1/2 sq. ft.* No. and Description of Safety Valves to

each boiler *Two direct spring* Area of each valve *5.9* 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 *8"* Mean dia. of boilers *12'-6"* Length *10'-3"* Material of shell plates *Steel*

Thickness *1 1/2"* Range of tensile strength *28 3/4 - 32* Are the shell plates welded or flanged *No* Descrip. of riveting: cir. seams *B.R. lap*

Long. seams *B.R. S. Rivets* Diameter of rivet holes in long. seams *1 1/2"* Pitch of rivets *7 1/8"* Lap of plates or width of butt straps *16 1/4"*

Percentages of strength of longitudinal joint rivets *90.1* plate *85.09* Working pressure of shell by rules *187 lbs* Size of manhole in shell *16" x 12"*

Size of compensating ring *Flanged* No. and Description of Furnaces in each boiler *Three plain* Material *Steel* Outside diameter *3'-1"*

Length of plain part *top 6'-6" bottom 9'-6"* Thickness of plates *top 25/32" bottom 8/16" mean* Description of longitudinal joint *Welded* No. of strengthening rings *✓*

Working pressure of furnace by the rules *192 lbs* Combustion chamber plates: Material *Steel* Thickness: Sides *23/32"* Back *21/32"* Top *23/32"* Bottom *15/16"*

Pitch of stays to ditto: Sides *11" x 8 1/2"* Back *10 3/8" x 8 3/4"* Top *11" x 8"* If stays are fitted with nuts or riveted heads *Nuts* Working pressure by rules *185 lbs*

Material of stays *Steel* Diameter at smallest part *2.09* Area supported by each stay *93.5* Working pressure by rules *185* End plates in steam space:

Material *Steel* Thickness *1 1/8"* Pitch of stays *18 1/4" x 18"* How are stays secured *by nuts* Working pressure by rules *182 lbs* Material of stays *Steel*

Diameter at smallest part *5.94* Area supported by each stay *308* Working pressure by rules *200* Material of Front plates at bottom *Steel*

Thickness *1"* Material of Lower back plate *Steel* Thickness *29/32"* Greatest pitch of stays *15 1/4" x 8 3/4"* Working pressure of plate by rules *184*

Diameter of tubes *3 1/4"* Pitch of tubes *4 1/2" x 4 1/2"* Material of tube plates *Steel* Thickness: Front *1"* Back *3/4"* Mean pitch of stays *11 1/4" x 9"*

Pitch across wide water spaces *14 1/4"* Working pressures by rules *189 lbs* Girders to Chamber tops: Material *Steel* Depth and

Thickness of girder at centre *9 3/4" x 1 7/8"* Length as per rule *2-10 3/32"* Distance apart *11"* Number and pitch of stays in each *308"*

Working pressure by rules *250 lbs* Superheater or Steam chest; how connected to boiler *None* 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

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

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 *✓*

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 top & two bottom-end connecting rod bolts & nuts. Two main bearing bolts & nuts. One set of coupling bolts & nuts. One set of feed & bilge pump valves. Assorted bolts & nuts etc.*

The foregoing is a correct description,

For and on behalf of
MANUFACTURER. **RICHARDSON, WESTGARTH & Co., Ltd.**

Dates of Survey while building { During progress of work in shops -- } 1910. Sept 28, 29, Oct 1, 2, 10, 13, 20, 28, Nov 5, 12, 19, 26, Dec 3, 10, 17, 24, 31, Feb 6, 13, 20, 27, Mar 6, 13, 20, 27, Apr 3, 10, 17, 24, May 1, 8, 15, 22, 29, June 5, 12, 19, 26, July 3, 10, 17, 24, Aug 7, 14, 21, 28, Sept 4, 11, 18, 25, Oct 2, 9, 16, 23, Nov 6, 13, 20, 27, Dec 4, 11, 18, 25, 1911. Jan 1, 8, 15, 22, Feb 5, 12, 19, 26, Mar 5, 12, 19, 26, Apr 12, 19, 26, May 12, 19, 26, June 12, 19, 26, July 12, 19, 26, Aug 12, 19, 26, Sept 12, 19, 26, Oct 12, 19, 26, Nov 12, 19, 26, Dec 12, 19, 26.

Total No. of visits 68 + 7 = 75

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

Dates of Examination of principal parts—Cylinders 31. 3. 11 Slides 7. 7. 11 Covers 13. 7. 11 Pistons 9. 5. 11 Rods 9. 5. 11 Connecting rods 9. 5. 11 Crank shaft 27. 1. 11 Thrust shaft 18. 8. 11 Tunnel shafts 18. 8. 11 Screw shaft 18. 8. 11 Propeller 18. 8. 11 Stern tube 23. 10. 11 Steam pipes tested 7. 11. 11 Engine and boiler seatings 9. 10. 11 Engines holding down bolts 7. 11. 11 Completion of pumping arrangements 10. 11. 11 Boilers fixed 7. 11. 11 Engines tried under steam 9. 11. 11 Main boiler safety valves adjusted 9. 11. 11 Thickness of adjusting washers PV $\frac{1}{4}$ " SV $\frac{5}{16}$ "

Material of Crank shaft *Steel* Identification Mark on Do. *5014 CTH* Material of Thrust shaft *Steel* Identification Mark on Do. *1918 HS*

Material of Tunnel shafts *Steel* Identification Marks on Do. *1981 HS 1921 HS* Material of Screw shafts *Steel* Identification Marks on Do. *1919 HS*

Material of Steam Pipes *Solid drawn copper* Test pressure *360 lbs*

General Remarks (State quality of workmanship, opinions as to class, &c.)

The Engines and Boiler of this vessel have been constructed under Special Survey, are of good material and workmanship, and have been fitted and secured on board in accordance with the Rules. They are now in good working condition and in my opinion eligible to have the notation of +LMC 11. 11. in the Register Book, when the feed donkey pump has been examined under steam.

The Donkey feed pump for Main Boiler, overhauled, pipes repointed, and tested under steam and found satisfactory.

It is submitted that
this vessel is eligible for
THE RECORD. + LMC 11. 11.

The amount of Entry Fee .. £ 1 : 0 :
Special .. £ 11 : 14 :
Donkey Boiler Fee .. £ : :
Travelling Expenses (if any) £ : :
When applied for, 10. 11. 1911
When received, 24. 11. 1911

Committee's Minute TUE. DEC. 12. 1911

Assigned

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

Survey Fee
Travelling Expense

Committee's Minute
Assigned

Lloyd's Register
Foundation