

REPORT ON MACHINERY.

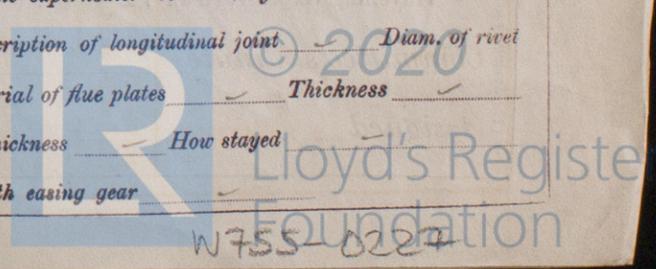
Received at London Office

Date of writing Report 19 When handed in at Local Office 15. 1. 19 Port of Sunderland THE LONDON OFFICE JAN 19 1913
 No. in Survey held at Sunderland Date, First Survey 17 June Last Survey 13 Jan 1913
 Reg. Book. Steel S. S. "Socoo" (Number of Visits 35)
 Master C. Le Hoch Built at Sunderland By whom built R. Thompson & Sons Ltd Gross Tons 2743
 Engines made at Sunderland By whom made North Eastern Marine Eng Co Ltd Net Tons 1714
 Boilers made at Sunderland By whom made North Eastern Marine Eng Co Ltd When built 1913
 Registered Horse Power Owners Societe des Chargeurs Francais Port belonging to Bayonne
 Nom. Horse Power as per Section 28 265 Is Refrigerating Machinery fitted for cargo purposes no Is Electric Light fitted no

ENGINES, &c.—Description of Engines Triple expansion No. of Cylinders Three No. of Cranks Three
 Dia. of Cylinders 22 1/2" x 3 1/2" x 61" Length of Stroke 42" Revs. per minute 66 Dia. of Screw shaft 12 5/8" Material of screw shaft Steel
 Is the screw shaft fitted with a continuous liner the whole length of the stern tube no 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 no 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 no If two liners are fitted, is the shaft lapped or protected between the liners yes Length of stern bush 4'-9"
 Dia. of Tunnel shaft 11 3/4" as per rule 11 3/8" as fitted Dia. of Crank shaft journals 11 9/16" as per rule 11 9/16" as fitted Dia. of Crank pin 12" Size of Crank webs 18" x 1 3/8" Dia. of thrust shaft under collars 12" Dia. of screw 16'-0" Pitch of Screw 16'-6" No. of Blades 4 State whether moveable no Total surface 82 sq ft
 No. of Feed pumps Two Diameter of ditto 3" Stroke 21" Can one be overhauled while the other is at work yes
 No. of Bilge pumps Two Diameter of ditto 4" Stroke 21" Can one be overhauled while the other is at work yes
 No. of Donkey Engines Two Sizes of Pumps Ballast 4" x 9" x 9" Feed 6" x 4" x 6" No. and size of Suctions connected to both Bilge and Donkey pumps In Engine Room Three @ 3" dia & 1 @ 3" dia in hold In Holds, &c. 2 @ 3" dia in each hold
 No. of Bilge Injections 1 sizes 4" Connected to condenser, or to circulating pump C.P. Is a separate Donkey Suction fitted in Engine room & size yes 3 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 no
 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 bilge 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 24-11-12 of Stern Tube 11-12-12 Screw shaft and Propeller 11-12-12
 Is the Screw Shaft Tunnel watertight yes Is it fitted with a watertight door yes worked from top platform

BOILERS, &c.—(Letter for record ST) Manufacturers of Steel Spencer & Sons Ltd
 Total Heating Surface of Boilers 4120 sq ft Is Forced Draft fitted no No. and Description of Boilers Two single ended
 Working Pressure 180 lbs Tested by hydraulic pressure to 360 lbs Date of test 18-11-12 No. of Certificate 3064
 Can each boiler be worked separately yes Area of fire grate in each boiler 52 1/2 sq ft No. and Description of Safety Valves to each boiler Two direct spring Area of each valve 5.94 sq in 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 18" Mean dia. of boilers 15'-0" Length 10'-6" Material of shell plates Steel
 Thickness 1 1/2" Range of tensile strength 28 3/4 to 32 tons Are the shell plates welded or flanged no Descrip. of riveting: cir. seams D.R. long. seams T.R.D.B.S. Diameter of rivet holes in long. seams 1 1/4" Pitch of rivets 9 3/16" Lap of plates or width of butt straps 18 3/4"
 Per centages of strength of longitudinal joint rivets 86 Working pressure of shell by rules 180 lbs Size of manhole in shell 16" x 12" plate 86.3
 Size of compensating ring dished No. and Description of Furnaces in each boiler Three Cor. Material Steel Outside diameter 3'-9 3/8"
 Length of plain part top 14" Thickness of plates crown 3 3/8" Description of longitudinal joint weld No. of strengthening rings 1 bottom 3 3/8"
 Working pressure of furnace by the rules 180 lbs Combustion chamber plates: Material Steel Thickness: Sides 3/4" Back 2 1/2" Top 3/4" Bottom 3/4"
 Pitch of stays to ditto: Sides 8 3/8" x 12" Back 10 3/4" x 10 3/8" Top 12" x 8 3/8" If stays are fitted with nuts or riveted heads nuts Working pressure by rules 180 lbs
 Material of stays Steel Diameter at smallest part 2.1" Area supported by each stay 100.3 sq in Working pressure by rules 188 lbs End plates in steam space: Material Steel Thickness 1 1/4" Pitch of stays 21 3/8" x 19" How are stays secured D.N. Wash Working pressure by rules 181 lbs Material of stays Steel
 Diameter at smallest part 1.06" Area supported by each stay 406 sq in Working pressure by rules 181 lbs Material of Front plates at bottom Steel
 Thickness 3/4" Material of Lower back plate Steel Thickness 1 5/16" Greatest pitch of stays 14 1/2" x 10 1/8" Working pressure of plate by rules 185 lbs
 Diameter of tubes 3 1/4" Pitch of tubes 4 9/16" Material of tube plates Steel Thickness: Front 3/4" Back 3/4" Mean pitch of stays 10 1/4"
 Pitch across wide water spaces 14 1/2" Working pressures by rules 192 lbs Girders to Chamber tops: Material Steel Depth and thickness of girder at centre 2 @ 8 1/4" x 1 1/16" Length as per rule 2'-9" Distance apart 12" Number and pitch of stays in each 2 @ 8 3/8"
 Working pressure by rules 181 lbs Superheater or Steam chest; how connected to boiler how Can the superheater be shut off and the boiler worked separately yes 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 —

If not, state whether, and when, one will be sent? Is a Report also sent on the Hull of the Ship? Capacity. Tons. 133. 49.



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 casing 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 bolts & nuts for top & bottom ends & main bearings. One set coupling bolts. Valves for all pumps. One Propeller, one Tail shaft, 1 set of pistons rings & springs, 2 safety valve springs, 2 check valves, 2 air pump valves & 3 circulating pump valves. Assorted bolts nuts & iron.

The foregoing is a correct description,

Manufacturer.

NORTH EASTERN MARINE ENGINEERING CO LTD

S. J. Harrison Secy
per HC

Dates of Survey while building

During progress of work in shops - -	1912 Jun 17, Jul 2, 3, 30, Sep 6, 12, 23, Oct 3, 4, 7, 8, 15, 16, 22, 23, 29, Nov 1, 8, 9, 12, 13, 14, 18
During erection on board vessel - - -	19, 20, 26, 27, Dec 2, 4, 6, 10, 12, 13, Jan 7, 13
Total No. of visits	(35)

Is the approved plan of main boiler forwarded herewith Yes No

" " " donkey " " " Yes No

Dates of Examination of principal parts—Cylinders 15-10-12 Slides 26-11-12 Covers 26-11-12 Pistons 29-10-12 Rods 11-10-12

Connecting rods 11-10-12 Crank shaft 15-10-12 Thrust shaft 8-11-12 Tunnel shafts 8-11-12 Screw shaft 2-12-12 Propeller 2-12-12

Stern tube 2-12-12 Steam pipes tested 6-12-12 Engine and boiler seatings 2-11-12 Engines holding down bolts 12-12-12

Completion of pumping arrangements 13-1-13 Boilers fixed 12-12-12 Engines tried under steam 13-12-12

Main boiler safety valves adjusted 13-12-12 Thickness of adjusting washers $F \frac{1}{2} \times 3 \frac{1}{16}$ $F \frac{5}{16} \times A \frac{5}{16}$

Material of Crank shaft Steel Identification Mark on Do. 3995-6 H.K. Material of Thrust shaft Steel Identification Mark on Do. 6 J.C.D.

Material of Tunnel shafts 4 off Steel Identification Marks on Do. 8038-9 K.H. Material of Screw shafts Steel Identification Marks on Do. 5 J.C.D. 5094 P.A. Shaft

Material of Steam Pipes Solid drawn copper 4 1/2" bore x 6 wall. Test pressure 140 lbs.

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

The Machinery of this vessel has been built under special survey, the materials and workmanship are of good quality and the hydraulic tests of the Boilers proved satisfactory. The whole of the machinery has been securely fixed on board & tried under steam & is in good & safe working condition & eligible in my opinion to be classed & have record **LMC 1-13** in the Register Book.

It is submitted that this vessel is eligible for THE RECORD + LMC 1.13.

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

The amount of Entry Fee .. £ 2 : 0 0 When applied for, _____

Special .. £ 33 : 5 0 _____

Donkey Boiler Fee .. £ : : _____

Travelling Expenses (if any) £ : : _____

Committee's Minute

Assigned + Lmb 1.13

SUNDERLAND.

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

FRI. JAN. 17. 1913



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