

REPORT ON MACHINERY

No. 64027
MON APR 14 1913

Date of writing Report 10th Apr 1913 When handed in at Local Office 11th April 1913 Port of Newcastle on Tyne
 No. in Survey held at Newcastle Date, First Survey 19th Nov 1912 Last Survey 28th Mar 1913
 Reg. Book. on the Machinery for S.S. No 34, by Cantiere Navale Triestino (Number of Visits 34)
 Master Built at By whom built When built
 Engines made at Newcastle By whom made North Eastern Marine Eng. Co. (Ld) when made 1913
 Boilers made at " By whom made " when made 1913
 Registered Horse Power Owners Port belonging to
 Nom. Horse Power as per Section 28 650 Is Refrigerating Machinery fitted for cargo purposes Is Electric Light fitted

ENGINES, &c.—Description of Engines Triple No. of Cylinders 3 No. of Cranks 3
 Dia. of Cylinders 28 1/2", 47 9/16" & 78" Length of Stroke 54" Revs. per minute 77 Dia. of Screw shaft as per rule 15 1/2" Material of steel
 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 Yes Length of stern bush 5'-6"
 Dia. of Tunnel shaft as per rule 14 3/8" Dia. of Crank shaft journals as per rule 15 1/2" Dia. of Crank pin 15 1/4" Size of Crank webs 23" x 9 1/2" Dia. of thrust shaft under
 collars 15 1/4" Dia. of screw 18'-0" Pitch of Screw 18'-0" No. of Blades 4 State whether moveable no Total surface 97 sq ft
 No. of Feed pumps 2 Diameter of ditto 4 1/2" Stroke 26" Can one be overhauled while the other is at work Yes
 No. of Bilge pumps 2 Diameter of ditto 4 1/2" Stroke 26" Can one be overhauled while the other is at work Yes
 No. of Donkey Engines 3 Sizes of Pumps 12 x 9 x 21, 8 x 6 x 8 & 7 x 5 1/2 No. and size of Suctions connected to both Bilge and Donkey pumps
 In Engine Room In Holds, &c.

No. of Bilge Injections / sizes 10 Connected to condenser, or to circulating pump Is a separate Donkey Suction fitted in Engine room & size
 Are all the bilge suction pipes fitted with roses Are the roses in Engine room always accessible Are the sluices on Engine room bulkheads always accessible
 Are all connections with the sea direct on the skin of the ship Are they Valves or Cocks
 Are they fixed sufficiently high on the ship's side to be seen without lifting the stokehold plates Are the Discharge Pipes above or below the deep water line
 Are they each fitted with a Discharge Valve always accessible on the plating of the vessel Are the Blow Off Cocks fitted with a spigot and brass covering plate
 What pipes are carried through the bunkers How are they protected
 Are all Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times
 Are the Bilge Suction Pipes, Cocks, and Valves arranged so as to prevent any communication between the sea and the bilges
 Dates of examination of completion of fitting of Sea Connections of Stern Tube Screw shaft and Propeller
 Is the Screw Shaft Tunnel watertight Is it fitted with a watertight door worked from

BOILERS, &c.—(Letter for record S) Manufacturers of Steel J. Spencer & Sons
 Total Heating Surface of Boilers 9860 Is Forced Draft fitted Yes No. and Description of Boilers 4 Single-ended
 Working Pressure 180 lbs Tested by hydraulic pressure to 360 lbs Date of test 7/2/13 & 13/2/13 No. of Certificate 84457 & 8451
 Can each boiler be worked separately Area of fire grate in each boiler 55.25 sq ft No. and Description of Safety Valves to
 each boiler Area of each valve Pressure to which they are adjusted Are they fitted with easing gear
 Smallest distance between boilers or uptakes and bunkers or woodwork Mean dia. of boilers 14'-9 1/2" Length 12'-0" Material of shell plates steel
 Thickness 1 1/32" Range of tensile strength 28 3/4-32 tons Are the shell plates welded or flanged no Descrip. of riveting: cir. seams d. r. lap
 long. seams d. r. butt Diameter of rivet holes in long. seams 1 1/4" Pitch of rivets 9" Lap of plates or width of butt straps 18 1/2"
 Per centages of strength of longitudinal joint 88.4 Working pressure of shell by rules 180.5 lbs Size of manhole in shell 16" x 12"
 Size of compensating ring flanged No. and Description of Furnaces in each boiler 3 Morrison's Material steel Outside diameter 44 1/2"
 Length of plain part top bottom Thickness of plates top bottom 1 1/32" Description of longitudinal joint welded No. of strengthening rings Yes
 Working pressure of furnace by the rules 184 lbs Combustion chamber plates: Material steel Thickness: Sides 2 3/32" Back 2 3/32" Top 2 3/32" Bottom 1"
 Pitch of stays to ditto: Sides 9 3/8" x 10 1/2" Back 10" x 9 3/4" Top 9 3/8" x 10 1/2" If stays are fitted with nuts or riveted heads nuts Working pressure by rules 180.5 lbs
 Material of stays steel Diameter at smallest part 2.03 Area supported by each stay 97.5 Working pressure by rules 186 lbs End plates in steam space:
 Material steel Thickness 1 9/16" Pitch of stays 26 7/8" x 24" How are stays secured d. r. & u. Working pressure by rules 182 lbs Material of stays steel
 Diameter at smallest part 1.04 Area supported by each stay 633 Working pressure by rules 181.5 lbs Material of Front plates at bottom steel
 Thickness 1" Material of Lower back plate steel Thickness 2 9/32" Greatest pitch of stays 14 1/2" Working pressure of plate by rules 186 lbs
 Diameter of tubes 2 1/2" Pitch of tubes 3 3/4" x 3 3/4" Material of tube plates steel Thickness: Front 1" Back 1 3/16" Mean pitch of stays 7 1/2"
 Pitch across wide water spaces 14 1/2" Working pressures by rules 182 lbs Girders to Chamber tops: Material steel Depth and
 thickness of girder at centre 9 1/2" x 15 1/8" Length as per rule 36" Distance apart 9 3/8" Number and pitch of stays in each 2 of 10 1/2"
 Working pressure by rules 182 lbs Superheater or Steam chest; how connected to boiler none 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

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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
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	
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 :—

THE NORTH EASTERN MARINE ENGINEERING CO. LD.
The foregoing is a correct description,

Manufacturer. *J. J. Johnson*

1912
Nov. 19. 25. 26. Dec. 3. 9. 13. 20. 31 Jan. 8. 10. 14. 15. 17. 20. 21. 22. 23. 24. 27. 28. 31. 1913

During progress of work in shops - - -
During erection on board vessel - - -
Total No. of visits 32

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

Dates of Examination of principal parts—Cylinders 12/12/12, 14/1/13 Slides 18/2/13 Covers 6/12/12 Pistons 15/1/13 Rods 15/1/13
Connecting rods 24/2/13 Crank shaft 23/1/13 Thrust shaft 5/2/13 Tunnel shafts 14/1/13 Screw shaft 20/1/13 Propeller 23/1/13
Stern tube 17/1/13 Steam pipes tested 13/3/13 Engine and boiler seatings Engines holding down bolts
Completion of pumping arrangements Boilers fixed Engines tried under steam
Main boiler safety valves adjusted Thickness of adjusting washers
Material of Crank shaft *steel* Identification Mark on Do. 27/1/13 *let* Material of Thrust shaft *steel* Identification Mark on Do. 6/2/13
Material of Tunnel shafts *steel* Identification Marks on Do. 17/1/13 *let* Material of Screw shafts *steel* Identification Marks on Do. 23/1/13
Material of Steam Pipes *Low welded iron* Test pressure 540 lbs.

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

The above machinery has been built under special sur the materials used are good, and the workmanship is satisfactory. In my opinion the vessel will be eligible for the record of L.M.C when the machinery has been properly fitted on board and secured, the safety valves adjusted, and the engines tried under

The amount of Entry Fee .. £ 3 : : When applied for, APR 13 1918
3/3 Special £ 3.5 : :
Donkey Boiler Fee £ : :
Travelling Expenses (if any) £ : : When received, 26-4-13

Committee's Minute FRL SEP 12 1913

Assigned See Minute on the Rpt 3518

Charles Cooper
Engineer Surveyor to Lloyd's Register of British & Foreign Sh