

REPORT ON MACHINERY.

No. 23502

THUR. 30 MAR 1911

Received at London Office

Date of writing Report 19 When handed in at Local Office 15.3.11, Port of Hull
No. in Survey held at Hull Goole Date, First Survey July 5/10. Last Survey 14th Mar 1911
Reg. Book. 46 Suffer on the Steel S. K. Lucida (Number of Visits 49) Gross 243
Master Built at Goole By whom built Goole S. B. R. Co. Ltd. Tons Net 93
Engines made at } By whom made } Messrs when made 1911
Boilers made at } Hull By whom made } Earle's Co. Ltd. when made 1911
Registered Horse Power Owners J. Marr & Son Port belonging to Fleetwood
Nom. Horse Power as per Section 28 85. 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 24" - 21" - 35" Length of Stroke 26" Revs. per minute 110 Dia. of Screw shaft as per rule 7.4" Material of screw shaft as fitted 7.75" 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 one length 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 40"
Dia. of Tunnel shaft as per rule 6.5" Dia. of Crank shaft journals as per rule 6.9" Dia. of Crank pin 7.125" Size of Crank webs 13 1/2 x 4 1/2 Dia. of thrust shaft under collars 7.125 Dia. of screw 9.3" Pitch of Screw 11-0" No. of Blades 4 State whether moveable No Total surface 28 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 2 1/2" Stroke 12" Can one be overhauled while the other is at work Yes
No. of Donkey Engines One Sizes of Pumps 6" x 3" x 6" No. and size of Suctions connected to both Bilge and Donkey pumps
In Engine Room One 2", One 2 1/2", one 3 1/2" In Holds, &c. One 2 1/2" to tank, One 2 1/2" to slush well. Ejector suction to all parts, (and separate centrifugal pump for Condenser)
No. of Bilge Injections 1 sizes 3 1/2" 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 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
Dates of examination of completion of fitting of Sea Connections 31.1.11 of Stern Tube 1.3.11 Screw shaft and Propeller 1.3.11
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 & Co. Ltd. Gas. Abt. Hoerde Verein
Total Heating Surface of Boilers 1560 sq ft Is Forced Draft fitted No No. and Description of Boilers One Cyl. Hull Single Ended
Working Pressure 180 lbs Tested by hydraulic pressure to 360 lbs Date of test 2.11.10 No. of Certificate 1779
Can each boiler be worked separately Area of fire grate in each boiler 36.7 sq ft No. and Description of Safety Valves to each boiler Two Spring Area of each valve 4.9 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 6" Mean dia. of boilers 13-6 Length 10-6 Material of shell plates S
Thickness 13/32 Range of tensile strength 28-32 Are the shell plates welded or flanged No Descrip. of riveting: cir. seams L.D.R.
long. seams D.B.S.J.R. Diameter of rivet holes in long. seams 1 1/8" Pitch of rivets 7 3/8" Lap of plates or width of butt straps 16 3/4"
Per centages of strength of longitudinal joint rivets 85.8 Working pressure of shell by rules 180 lbs Size of manhole in shell 16" x 12"
plate 85.7 Thickness of plates crown 49" Description of longitudinal joint Welded No. of strengthening rings 0
Length of plain part top 65" bottom 64" Thickness of plates crown 49" Description of longitudinal joint Welded No. of strengthening rings 0
Working pressure of furnace by the rules 180 lbs Combustion chamber plates: Material S Thickness: Sides 5" Back 11" Top 5" Bottom 5"
Pitch of stays to ditto: Sides 9" x 8 1/4" Back 9 1/2" x 8" Top 8 1/2" x 9" If stays are fitted with nuts or riveted heads Nuts Working pressure by rules 181 lbs
Material of stays S Diameter at smallest part 1 3/4" Area supported by each stay 94 sq in Working pressure by rules 229 lbs End plates in steam space:
Material S Thickness 1 1/8" Pitch of stays 18" x 17 3/8" How are stays secured D.N. Working pressure by rules 181 lbs Material of stays S
Diameter at smallest part 2 1/2" Area supported by each stay 312.75 sq in Working pressure by rules 207 lbs Material of Front plates at bottom S
Thickness 15/16 Material of Lower back plate S Thickness 7/8" Greatest pitch of stays 14" x 8" Working pressure of plate by rules 203 lbs
Diameter of tubes 3 1/2" Pitch of tubes 5 1/2" x 4 1/2" Material of tube plates S Thickness: Front 15/16 Back 7/8 Mean pitch of stays 10"
Pitch across wide water spaces 14" Working pressures by rules 183 lbs Girders to Chamber tops: Material S Depth and thickness of girder at centre 10 1/2" x 1 1/2" Length as per rule 36" Distance apart 9" Number and pitch of stays in each 3 x 8 1/2"
Working pressure by rules 186 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

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 of coupling bolts and nuts, one set air feed, bilge pump valves, and a quantity of assorted bolts nuts etc ✓

The foregoing is a correct description,

F. J. Falgout **Manufacturer.**

SECRETARY:

Dates of Survey while building	{	During progress of work in shops - -	1910 - July 5. 12. 21. 27. Aug 8. 13. 17. 22. 25. 29. 31. Sep 6. 13. 15. 16. 19. 21. 27. Oct 5. 6. 7. 13. 17. 24. 26.
		During erection on board vessel - - -	Oct 27. 28. Nov 1. 2. 5. 10. 15. 17. 19. 23. 25. 29. Dec 5. 1911 - Jan 31. Feb 3. 24. 27. 28. Mar 1. 8. 9. 11. 13. 14.
		Total No. of visits	49.

Is the approved plan of main boiler forwarded herewith Yes ✓

Dates of Examination of principal parts—Cylinders 10-11-10 Slides 5-12-10 Covers 5-12-10 Pistons 5-12-10 Rods 25-11-10
Connecting rods 25-11-10 Crank shaft 5-11-10 Thrust shaft 15-11-10 Tunnel shafts Screw shaft 5-11-10 Propeller 5-11-10
Stern tube 24-10-10 Steam pipes tested 27-2-11 Engine and boiler seatings 3-2-11 Engines holding down bolts 1-3-11
Completion of pumping arrangements 14-3-11 Boilers fixed 1-3-11 Engines tried under steam 4-3-11
Main boiler safety valves adjusted 2-3-11 Thickness of adjusting washers $\frac{3}{8}$ " $\frac{3}{8}$ "
Material of Crank shaft S Identification Mark on Do. 614 B. Material of Thrust shaft 55 steel Identification Mark on Do. 679 JNS
Material of Tunnel shafts Identification Marks on Do. Material of Screw shafts I Identification Marks on Do. 6586 J.K.
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 boiler of this vessel have been constructed under special survey in accordance with the Societys Rules. The materials and workmanship are good. The boiler 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 my opinion to be classed with the rotation of *L.M.C.3.11* in the Register Book

It is recommended that
this vessel is eligible for
THE RECORD, + LMC3.11.

The amount of Entry Fee	.. £	1	:	:	When applied for,
Special	.. £	12	.	15	29.3-11
Donkey Boiler Fee	.. £	:	:	:	When received,
Travelling Expenses (if any)	£	:	:	9 6	15

Committee's Minute

Assigned

FRI. 31 MAR 1911

+ Lm 3.11

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