

REPORT ON MACHINERY.

No. 25947

Received at London Office

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Date of writing Report 17-12-1913 When handed in at Local Office 17-12-1913 Port of Sunderland

No. in Survey held at Sunderland Date, First Survey 4th Mar. 1913 Last Survey 16-12-1913
Reg. Book. on the new steel 9/5 "WOLVERTON" (Number of Visits 45)Master Built at Middlesbrough By whom built Sir Raylton Dixon & Co. (S.N. 584) When built 1914
Engines made at Sunderland By whom made George Blaik Ltd (N. 994) when made 1914
Boilers made at Sunderland By whom made George Blaik Ltd (N. 994) when made 1914Registered Horse Power Owners Denaby & Badely Main Collieries Ltd. Port belonging to Hull
Nom. Horse Power as per Section 28 332 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes

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

Dia. of Cylinders 25"-40"-67" Length of Stroke 45 Revs. per minute 65 Dia. of Screw shaft as per rule 13.9" Material of screw shafts Snap Iron
as fitted 14 1/8"

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 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 4'-8 1/2"

Dia. of Tunnel shaft as per rule 12.35" Dia. of Crank shaft journals as per rule 12.97" Dia. of Crank pin 13" Size of Crank webs 8 1/2" x 9 1/2" Dia. of thrust shaft under

collars 13 1/4" Dia. of screw 14.0" Pitch of Screw 16.6" No. of Blades 4 State whether moveable No Total surface 88 sq ft

No. of Feed pumps 2 Diameter of ditto 3 1/4" Stroke 24" Can one be overhauled while the other is at work Yes

No. of Bilge pumps 2 Diameter of ditto 4 1/2" Stroke 24" Can one be overhauled while the other is at work Yes

No. of Donkey Engines 2 Sizes of Pumps 9 & 10 x 10 7 1/2 & 5 x 6 No. and size of Suctions connected to both Bilge and Donkey pumps

In Engine Room 4 @ 3 1/2" In Holds, &c. N. 1 hold - 2 @ 3 1/2" N. 2 hold - 2 @ 3 1/2"

Deep tank - 2 @ 3 1/2" N. 3 hold - 2 @ 3 1/2" N. 4 hold - 2 @ 3 1/2" Tunnel well 1 @ 2 1/2"

No. of Bilge Injections 1 sizes 6 1/2" Connected to condenser, or to circulating pump B.P. Is a separate Donkey Suction fitted in Engine room & size Yes 5"

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

What pipes are carried through the bunkers Deep tank & forward hold suction How are they protected Under wood casing & liner brass.

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 25.11.13 of Stern Tube 1-12-13 Screw shaft and Propeller 2-12-13

Is the Screw Shaft Tunnel watertight Yes Is it fitted with a watertight door Yes worked from Top platform

BOILERS, &c.—(Letter for record S) Manufacturers of Steel John Spencer & Sons Ltd & Rheinische Stahlwerke

Total Heating Surface of Boilers 5182 sq ft Is Forced Draft fitted No No. and Description of Boilers Three single ended marine

Working Pressure 180 Tested by hydraulic pressure to 360 Date of test 18-9-13 No. of Certificate 3148

Can each boiler be worked separately Yes Area of fire grate in each boiler 58 sq ft No. and Description of Safety Valves to

each boiler two direct spring Area of each valve 8.3 sq ft Pressure to which they are adjusted 185 Are they fitted with easing gear Yes

Smallest distance between boilers or uptakes and bunkers or woodwork 1'-6" Mean dia. of boilers 13'-9" Length 10'-6" Material of shell plates Steel

Thickness 1 1/16" Range of tensile strength 292-33 tons Are the shell plates welded or flanged No Descrip. of riveting: cir. seams 10.R.

long. seams 10.B.S.T.R Diameter of rivet holes in long. seams 1 1/8" Pitch of rivets 7 1/8" Lap of plates or width of butt straps 17 1/8"

Per centages of strength of longitudinal joint rivets 88 plate 85.7 Working pressure of shell by rules 182 Size of manhole in shell 16" x 13"

Size of compensating ring flanged No. and Description of Furnaces in each boiler 3 plain Material steel Outside diameter 3'-6"

Length of plain part top 75 1/2" bottom 73 1/2" Thickness of plates crown 1 1/4" bottom 1 1/2" Description of longitudinal joint welded No. of strengthening rings 10 circular

Working pressure of furnace by the rules 184 Combustion chamber plates: Material steel Thickness: Sides 1 1/16" Back 1 1/16" Top 1 1/16" Bottom 7/8"

Pitch of stays to ditto: Sides 10 1/4" x 8 1/4" Back 9 1/2" x 9 1/2" Top 9 1/4" x 9 1/4" If stays are fitted with nuts or riveted heads Nuts Working pressure by rules 180

Material of stays steel Diameter at smallest part 2.030" Area supported by each stay 89.60" Working pressure by rules 203 End plates in steam space:

Material steel Thickness 1 1/8" Pitch of stays 22 x 18 How are stays secured B.N. Working pressure by rules 182 Material of stays steel

Diameter at smallest part 5.930" Area supported by each stay 3330" Working pressure by rules 185 Material of Front plates at bottom steel

Thickness 1 3/16" Material of Lower back plate steel Thickness 29" Greatest pitch of stays 14 7/8" x 9 1/2" Working pressure of plate by rules 182

Diameter of tubes 3 1/2" Pitch of tubes 4 1/2" x 43/84 1/2" Material of tube plates steel Thickness: Front 1 3/16" Back 3/4" Mean pitch of stays 10 1/8"

Pitch across wide water spaces 14 1/4" Working pressures by rules 195 Girders to Chamber tops: Material steel Depth and

thickness of girder at centre 208 1/4" x 7 1/8" Length as per rule 32" Distance apart 93 1/4" Number and pitch of stays in each 209"

Working pressure by rules 182 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

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

2910-82M

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 connecting rod top and bottom end bolts and nuts two main bearing bolts one set of coupling bolts one set of feed and bilge pump valves iron and bolts of various sizes one screw shaft and one propeller.

The foregoing is a correct description,
FOR GEORGE CLARK, LIMITED

Manufacturer. *2 Main Engines Builders*

Dates of Survey while building	During progress of work in shops --	1913. Mar 4. Apr 10. 17. 23. May 2. 24. Jun 12. Jul 24. 18. 28. 30. Aug 12. 13. 18. 21.
	During erection on board vessel --	Sep 1. 2. 5. 6. 9. 12. 15. 18. 24. Oct 7. 9. 13. 27. 30. 31. Nov 4. 5. 10. 28. Dec 1. 2. 5. 8. 11. 16.
	Total No. of visits	15. Nov 25. 1914 Jan 6.

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

Dates of Examination of principal parts—Cylinders	1-9-13	Slides	9-10-13	Covers	9-10-13	Pistons	3-7-13	Rods	26-9-13
Connecting rods	29-9-13	Crank shaft	28-8-13	Thrust shaft	6-9-13	Tunnel shafts	5-9-13	Screw shaft	5-11-13
Propeller	21-8-13	Stern tube	4-11-13	Steam pipes tested	7-10-13 & 8-12-13	Engine and boiler seatings	25. 11. 13	Engines holding down bolts	8-12-13
Completion of pumping arrangements	6. 1. 14	Boilers fixed	8-12-13	Engines tried under steam	11-12-13	Main boiler safety valves adjusted	11-12-13	Thickness of adjusting washers	Port Blk. - P pistons 55/16 full. Centre Blk. 5/16. Star Blk. 1/16.
Material of Crank shaft	Steel	Identification Mark on Do.	8464 KH	Material of Thrust shaft	Steel	Identification Mark on Do.	5488 P		
Material of Tunnel shafts	Steel	Identification Marks on Do.	4503-4 HK. 8435 KH.	Material of Screw shafts	Steel	Identification Marks on Do.	5782 M.		
Material of Steam Pipes	Seamed steel 20.5" x 5/16 & 10.8" x 5/16	Test pressure	540 lbs per sq. in.						

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

To complete the survey the after hold and tunnel sections require to be fitted. The electric lighting installation also requires to be completed. Vessel proceeding to Middlesbrough. Surveyors notified at that port.

The materials and workmanship are good. The machinery has been made under special survey and is eligible in our opinion for classification and the record + LMC 1. 14 (with date) when the survey is complete.

The Survey has now been satisfactorily completed as above required.

It is submitted that this vessel is eligible for THE RECORD + LMC 1. 14.

The amount of Entry Fee	£ 3 :	When applied for,	24. 12. 13
Special	£ 36 : 12 :	When received,	15. 1. 14
Donkey Boiler Fee	£ :		
Travelling Expenses (if any)	£ :		

Committee's Minute

TUE. JAN. 20. 1914

Assigned

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



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