

REPORT ON MACHINERY.

No. 25993

Received at London Office SAT. JAN. 31. 1914

Date of writing Report 28th Jan 1914 When handed in at Local Office 20th Jan 1914 Port of Sunderland

No. in Survey held at Sunderland Date, First Survey 2nd August 1911 Last Survey 16th January 1914
Reg. Book. on the New Steel S.S. Kelsomoor (Number of Visits 37)Master W. Waddle Built at Sunderland By whom built J. Blumer & Co. Ltd. 221 Tons Gross 3174
Engines made at Sunderland By whom made North Eastern Marine Eng. Co. Ltd. when made 1913-14
Boilers made at Sunderland By whom made North Eastern Marine Eng. Co. Ltd. 2119 when made 1913-14Registered Horse Power Owners Moor Line (H. Runciman & Co.) Port belonging to Newcastle London
Nom. Horse Power as per Section 28 291 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 24" x 39" x 65" Length of Stroke 42" Revs. per minute 40 Dia. of Screw shaft 13.26" Material of screw shaft 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 4'-6"

Dia. of Tunnel shaft 11.43" Dia. of Crank shaft journals 12.2" Dia. of Crank pin 12.2" Size of Crank webs 19.2 x 4.8" Dia. of thrust shaft under

collars 12.2" Dia. of screw 16'-6" Pitch of Screw 14'-0" No. of Blades 4 State whether moveable No Total surface 86.4

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

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

No. of Donkey Engines Two Sizes of Pumps Ballast 4" x 9", Feed 6" x 4" x 6" No. and size of Suctions connected to both Bilge and Donkey pumps

In Engine Room Two @ 3" diameter, One @ 3.5" diameter. In Holds, &c. 2 @ 3" dia in No 1 hold, 2 @ 3" dia

in No 2 hold, 2 @ 3" dia in No 3 hold, One @ 3.5" dia in after hold well.

No. of Bilge Injections One sizes 4.5" Connected to condenser, or to circulating pump No Is a separate Donkey Suction fitted in Engine room & size Yes 3.5"

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

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 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 9-12-13 of Stern Tube 19-12-13 Screw shaft and Propeller 19-12-13

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

BOILERS, &c.—(Letter for record) Manufacturers of Steel J. Spencer & Sons Ltd. Newburn.

Total Heating Surface of Boilers 44000 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 7-11-13 No. of Certificate 3165

Can each boiler be worked separately Yes Area of fire grate in each boiler 55.2 No. and Description of Safety Valves to

each boiler Two spring loaded Area of each valve 5.94 Pressure to which they are adjusted 185 lbs Are they fitted with easing gear Yes

Smallest distance between boilers or uptakes and bunkers or coals 18" Mean dia. of boilers 15'-9" Length 10'-6" Material of shell plates Steel

Thickness 1.64 Range of tensile strength 28.2 x 32.2 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 1.56 Pitch of rivets 9.5 Lap of plates or width of butt straps 19.4

Per centages of strength of longitudinal joint rivets 86.45 Working pressure of shell by rules 180 lbs Size of manhole in end 16" x 12"

Size of compensating ring dished No. and Description of Furnaces in each boiler Three Corv. Material Steel Outside diameter 44.5

Length of plain part top 1.6 bottom 1.6 Thickness of plates crown 1.6 Description of longitudinal joint weld No. of strengthening rings 3

Working pressure of furnace by the rules 184.5 Combustion chamber plates: Material Steel Thickness: Sides 3.4 Back 3.2 Top 3.4 Bottom 3.4

Pitch of stays to ditto: Sides 8.5 x 11.5 Back 10.5 x 10.5 Top 8.5 x 11.5 If stays are fitted with nuts or riveted heads nuts Working pressure by rules 180.5

Material of stays Steel Area at smallest part 2.1 Area supported by each stay 102.3 Working pressure by rules 184.5 End plates in steam space:

Material Steel Thickness 1.25 Pitch of stays 22.5 x 20.5 How are stays secured D.N. Wash Working pressure by rules 180.5 Material of stays Steel

Area at smallest part 8.29 Area supported by each stay 44.5 Working pressure by rules 182 lbs Material of Front plates at bottom Steel

Thickness 3.4 Material of Lower back plate Steel Thickness 1.6 Greatest pitch of stays 14.5 x 10.5 Working pressure of plate by rules 182 lbs

Diameter of tubes 3.4 Pitch of tubes 4.5 x 4.5 Material of tube plates Steel Thickness: Front 4 Back 3.4 Mean pitch of stays 10.5

Pitch across wide water spaces 14.5 Working pressures by rules 192 lbs Girders to Chamber tops: Material Steel Depth and

thickness of girder at centre 20.8 x 1.5 Length as per rule 31.5 Distance apart 11.5 Number and pitch of stays in each 2 @ 8.5

Working pressure by rules 180.5 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

006067-006074-0053

VERTICAL DONKEY BOILER—

Manufacturers of Steel

No.	Description	When made	Where fixed
Made at	By whom made	No. of Certificate	Fire grate area
Working pressure	tested by hydraulic pressure to	Date of test	Description of Safety
Valves	No. of Safety Valves	Area of each	Date of adjustment
If fitted with casing gear	If steam from main boilers can enter the donkey boiler	Pressure to which they are adjusted	Dia. of donkey boiler
Material of shell plates	Thickness	Range of tensile strength	Length
Dia. of rivet holes	Whether punched or drilled	Pitch of rivets	Descrip. of riveting long. seams
Working pressure of shell by rules	Thickness of shell crown plates	Radius of do.	No. of stays to do.
Diameter of furnace Top	Bottom	Length of furnace	Thicknes of furnace plates
Working pressure of furnace by rules	Thicknes of furnace crown plates	Radius of do.	Description of joint
Diameter of uptake	Thicknes of uptake plates	Thicknes of water tubes	Dates of survey

SPARE GEAR. State the articles supplied:—
Two each bolts & nuts for top and bottom ends and main bearings. One set coupling bolts. One set feed & bilge pump valves. Assorted bolts nuts & rivs. Sail shaft & propeller.

The foregoing is a correct description,

NORTH EASTERN MARINE ENGINEERING CO LTD
S. T. Harrison Secy

Dates of Survey while building	During progress of work in shops	1913 Aug 2 11 14 20 27	Sep 5 16 19 24 25	Oct 1 4 9 10 15 17								
During erection on board vessel	22 23 24 30	Nov 4 6 7 12 18 25 27 28	Dec 3 9 16 19 24 31	Jan 6 9 16								
Total No. of visits	37	Is the approved plan of main boiler forwarded herewith										
Dates of Examination of principal parts		Cylinders	30-10-13	Slides	12-11-13	Covers	30-10-13	Pistons	12-11-13	Rods	4-10-13	
Connecting rods		12-11-13	Crank shaft	6-11-13	Thrust shaft	6-11-13	Tunnel shafts	6-11-13	Screw shaft	12-11-13	Propeller	24-11-13
Stern tube		24-11-13	Steam pipes tested	30-12-13	Engine and boiler seatings	9-12-13	Engines holding down bolts	31-12-13				
Completion of pumping arrangements		6-1-14	Boilers fixed	19-12-13	Engines tried under steam	31-12-13						
Main boiler safety valves adjusted		31-12-13	Thicknes of adjusting washers	F 3/32 A 3/32	Engines F 3/32 A 5/16							
Material of Crank shaft		Steel	Identification Mark on Do.	8383 K.H.	Material of Thrust shaft	Steel	Identification Mark on Do.	16 N.B.				
Material of Tunnel shafts		Steel	Identification Marks on Do.	450 H.K. 445 M.B.	Material of Screw shafts	Steel	Identification Marks on Do.	38 N.B. 34 N.S. 32 N.S.				
Material of Steam Pipes		4 3/4" for 4 1/2" thick	Lap welded not riv	Test pressure	540 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 in place & tried under steam, and is in good & safe working condition and eligible in my opinion to be classed and have record. **L.M.C. 1-14** in the Register Book.

It is submitted that
this vessel is eligible for
THE RECORD. + L.M.C. 1. 14.

W.D. 31/1/14
A.R.D.

The amount of Entry Fee	£ 2 : 0 0	When applied for	30.1.14
Special	£ 34 . 11 0	When received	5/2/14
Donkey Boiler Fee	£ :		
Travelling Expenses (if any)	£ :		

Committee's Minute
Assigned
+ L.M.C. 1. 14

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

