

Rpt. 4.

REPORT ON MACHINERY.

No. 2081

Received at London Office

17 SEP 1924

Date of writing Report *12th Sept^r 1924* When handed in at Local Office *16th Sept^r 1924* Port of *Barrow-in-Furness*
 No. in Survey held at *Barrow* Date, First Survey *13th March* Last Survey *9th September 1924*
 Reg. Book. on the *Steel screw steamer "Dearne" (ickers Ld. 40611)* (Number of Visits *51*)
 Master *✓* Built at *Barrow* By whom built *ickers Ld.* Tons { Gross *1043*
 Engines made at *Barrow* By whom made *ickers Ld.* Net *424*
 Boilers made at *✓* By whom made *✓* When built *1924*
 Registered Horse Power *✓* Owners *London Midland & Scottish Railway Co. Ltd.* Port belonging to *Goole*
 Nom. Horse Power as per Section 28 *333* Is Refrigerating Machinery fitted for cargo purposes *✓* Is Electric Light fitted *✓*

ENGINES, &c.—Description of Engines *Inverted triple expansion* No. of Cylinders *3* No. of Cranks *3*
 Dia. of Cylinders *22", 36", 61"* Length of Stroke *39"* Revs. per minute *90* Dia. of Screw shaft *as per rule 12.2* Material of *Steel*
 Is the screw shaft fitted with a continuous liner the whole length of the stern tube *✓* Is the after end of the liner made water tight
 in the propeller boss *✓* 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'-6"*
 Dia. of Tunnel shaft *as per rule 10.86* Dia. of Crank shaft journals *as per rule 11.4* Dia. of Crank pin *12"* Size of Crank webs *Y³/₈ x 22³/₈* Dia. of thrust shaft under
 collars *11³/₄* Dia. of screw *13'-0"* Pitch of Screw *19'-0"* No. of Blades *4* State whether moveable *✓* Total surface *60.5 sq ft*
 No. of Feed pumps *Two* Diameter of ditto *6¹/₂"* Stroke *21"* Can one be overhauled while the other is at work *✓*
 No. of Bilge pumps *Two* Diameter of ditto *3³/₄"* Stroke *20"* Can one be overhauled while the other is at work *✓*
 No. of Donkey Engines *Two* Sizes of Pumps *9" x 10" x 10" : 4" x 4" x 5"* No. and size of Suctions connected to both Bilge and Donkey pumps
 In Engine Room *4 of 2¹/₂"* In Holds, &c. *4-1-2 of 2¹/₂" : 4-2-2 of 2¹/₂" : 4-3-2*
 No. of Bilge Injections *One* sizes *Y"* Connected to condenser, or to circulating pump *✓* Is a separate Donkey Suction fitted in Engine room & size *4-3-2*
 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 *Both*
 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 *Below*
 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 *Forward bilge & ballast pipes* How are they protected *Below the flooring and in casing*
 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 *✓*
 Is the Screw Shaft Tunnel watertight *✓* Is it fitted with a watertight door *✓* worked from *Upper deck*

BOILERS, &c.—(Letter for record *(1)*) Manufacturers of Steel *W. Beadnors & Co. and David Colville*
 Total Heating Surface of Boilers *5000 sq ft* Is Forced Draft fitted *✓* No. and Description of Boilers *Two S.E. Oyl. Mult.*
 Working Pressure *180 lbs* Tested by hydraulic pressure to *320 lbs* Date of test *24th 29th July 1924* No. of Certificate *372 & 373*
 Can each boiler be worked separately *✓* Area of fire grate in each boiler *61.8 sq ft* No. and Description of Safety Valves to
 each boiler *2 Cockburn High lift type* Area of each valve *5.9 sq in* Pressure to which they are adjusted *185 lbs* Are they fitted with easing gear *✓*
 Smallest distance between boilers *on uptakes and bunkers or woodwork* *18"* Mean dia. of boilers *14'-9¹/₂"* Length *11'-6"* Material of shell plates *Steel*
 Thickness *1¹/₂"* Range of tensile strength *28/32* Are the shell plates welded or flanged *✓* Descrip. of riveting: cir. seams *DR lap*
 long. seams *YR A/S* Diameter of rivet holes in long. seams *1¹/₄"* Pitch of rivets *8⁵/₈"* *Top of plates or width of butt straps* *18³/₄"*
 Per centages of strength of longitudinal joint *rivets 90 plate 85.5* Working pressure of shell by rules *181 lbs* Size of *opening* in shell *21" x 14"*
 Size of compensating ring *10³/₄ x 1³/₄ flanged* No. and Description of Furnaces in each boiler *3 Morrison* Material *Steel* Outside diameter *44¹/₈"*
 Length of plain part *top bottom* Thickness of plates *top bottom* *9¹/₁₆"* Description of longitudinal joint *Weld* No. of strengthening rings *✓*
 Working pressure of furnace by the rules *185 lbs* Combustion chamber plates: Material *Steel* Thickness: Sides *2¹/₂"* Back *2¹/₂"* Top *2¹/₂"* Bottom *1"*
 Pitch of stays to ditto: Sides *8¹/₂" x 9¹/₄"* Back *9" x 9"* Top *8¹/₄" x 9¹/₄"* If stays are fitted with nuts or riveted heads *hubs* Working pressure by rules *185 lbs*
 Material of stays *Iron* Area of *smallest part* *1⁵/₈"* Area supported by each stay *81 sq in* Working pressure by rules *188 lbs* End plates in steam space:
 Material *Steel* Thickness *1¹/₄"* Pitch of stays *27¹/₂" : 19.1* How are stays secured *Double nut* Working pressure by rules *200 lbs* Material of stays *Steel*
 Area of *smallest part* *3¹/₄"* Area supported by each stay *430.5 sq in* Working pressure by rules *188 lbs* Material of Front plates at bottom *Steel*
 Thickness *1"* Material of Lower back plate *Steel* Thickness *1"* Greatest pitch of stays *14¹/₂" x 9¹/₂"* Working pressure of plate by rules *205 lbs*
 Diameter of tubes *2¹/₂"* Pitch of tubes *3⁵/₈" x 3¹/₄"* Material of tube plates *Steel* Thickness: Front *1"* Back *1³/₈"* Mean pitch of stays *10⁷/₈" x 11¹/₄"*
 Pitch across wide water spaces *13¹/₂"* Working pressures by rules *294 lbs & 212 lbs* Girders to Chamber tops: Material *Steel* Depth and
 thickness of girder at centre *8" x 1¹/₂"* Length as per rule *31¹/₂"* Distance apart *8¹/₄"* Number and pitch of stays in each *2 @ 9¹/₄"*
 Working pressure by rules *204 lbs* Steam dome: description of joint to shell *✓* % of strength of joint *✓*
 Diameter *✓* Thickness of shell plates *✓* Material *✓* Description of longitudinal joint *✓* Diam. of rivet holes *✓*
 Pitch of rivets *✓* Working pressure of shell by rules *✓* Crown plates *✓* Thickness *✓* How stayed *✓*

SUPERHEATER. Type *Horizontal* Date of Approval of Plan *✓* Tested by Hydraulic Pressure to *✓*
 Date of Test *✓* Is a Safety Valve fitted to each Section of the Superheater which can be shut off from the Boiler *✓*
 Diameter of Safety Valve *✓* Pressure to which each is adjusted *✓* Is Easing Gear fitted *✓*

If not, state whether, and when, one will be sent?

Is a Report also sent on the Hull of the Ship?

002085-002093-0073

IS A DONKEY BOILER FITTED?

If so, is a report now forwarded?

SPARE GEAR. State the articles supplied:— One throw crank shaft. Propeller, 2 Top end bolts and nuts, 2 Bottom end bolts and nuts, 2 main bearing bolts and nuts, 1 set of Coupling Bolts and nuts, 1 pair of Top end brasses, 1 pair of Bottom end brasses, 1 set of Feed pump valves, 1 set of Bilge pump valves, 6 junk ring bolts, 1 Impeller shaft, 1 Impump rod, Assorted bolts and nuts, Rod & sheet steel.

The foregoing is a correct description,

FOR VICKERS LIMITED,

G. H. Johnson

Manufacturer.

Dates of Survey while building: During progress of work in shops -- 1924 March 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, April 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, May 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, June 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, July 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, August 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, September 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, October 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, November 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, December 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31. Total No. of visits 51.

Is the approved plan of main boiler forwarded herewith

" " " donkey " " "

Dates of Examination of principal parts—Cylinders 16-6-24 Slides 16-6-24 Covers 16-6-24 Pistons 16-6-24 Rods 16-6-24 Connecting rods 16-6-24 Crank shaft 5-6-24 Thrust shaft 5-6-24 Tunnel shafts 16-6-24 Screw shaft 16-6-24 Propeller 3-7-24 Stern tube 13-7-24 Steam pipes tested 19-8-24 & 3-9-24 Engine and boiler seatings 31-7-24 Engines holding down bolts 3-9-24 Completion of pumping arrangements 9-9-24 Boilers fixed 3-9-24 Engines tried under steam 9-9-24 Completion of fitting sea connections 31-7-24 Stern tube 28-7-24 Screw shaft and propeller 31-7-24 Main boiler safety valves adjusted 6-9-24 Thickness of adjusting washers Port holes PV 3/8 SP 3/8 Starboard boiler PV 3/8 SP 3/8

Material of Crank shaft Ingot Steel Identification Mark on Do. 364 1/2 Material of Thrust shaft Ingot Steel Identification Mark on Do. 364 1/2 Material of Tunnel shafts Ingot Steel Identification Marks on Do. 364 1/2 Material of Screw shafts Ingot Steel Identification Marks on Do. 364 1/2 Material of Steam Pipes Solid drawn steel Test pressure 540 lbs

Is an installation fitted for burning oil fuel No Is the flash point of the oil to be used over 150°F.

Have the requirements of Section 49 of the Rules been complied with

Is this machinery duplicate of a previous case No If so, state name of vessel

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

The engines and boilers of this vessel have been built under Special Survey, the workmanship and materials are good, they have been efficiently mounted and fitted on board, and proved satisfactory under working conditions.

In my opinion the vessel is eligible to have the notation of LMC 9.24 made in the Register Book.

It is submitted that this vessel is eligible for THE RECORD. + LMC 9.24. OG. FD.

W.D. 19/9/24 C.M.S.

W.D. Courie
Engineer Surveyor to Lloyd's Register of Shipping.

The amount of Entry Fee ... £ 5 : 0 :
Special ... £ 14 : 19 :
Donkey Boiler Fee ... £ - : - :
Travelling Expenses (if any) £ - : - :
When applied for, 12th Sept 1924
When received, 24th Sept 1924

Committee's Minute FRI 26 SEP 1924
Assigned + LMC 9.24

CERTIFICATE WRITTEN + LMC 9.24

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