

Rpt. 4.

# REPORT ON MACHINERY

No. 2081

Received at London Office 17 SEP 1924

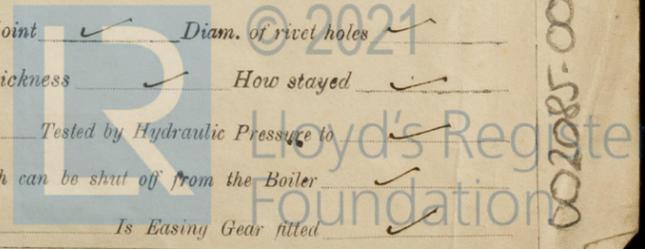
Date of writing Report 12<sup>th</sup> Sept<sup>r</sup> 1924 When handed in at Local Office 16<sup>th</sup> Sept<sup>r</sup> 1924 Port of Barrow-in-Furness  
 No. in Survey held at Barrow Date, First Survey 13<sup>th</sup> March. Last Survey 9<sup>th</sup> September 1924  
 Reg. Book. on the Steel screw steamer "Dearne" (ickers Ld. 40611) (Number of Visits 51)  
 Master ✓ Built at Barrow By whom built ickers Ld. Tons { Gross 1043  
 Net 424  
 When built 1924.  
 Engines made at Barrow By whom made ickers Ld. when made 1924  
 Boilers made at ✓ By whom made ✓ when made 1924  
 Registered Horse Power ✓ Owners London Midland & Scottish Railway Co<sup>l</sup>d Port belonging to Goole  
 Nom. Horse Power as per Section 28 333 ✓ Is Refrigerating Machinery fitted for cargo purposes no ✓ 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 screw shaft Steel ✓  
 as fitted 12.75 ✓  
 Is the screw shaft fitted with a continuous liner the whole length of the stern tube no ✓ 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 7 3/8 x 22 3/8 ✓ Dia. of thrust shaft under collars 11 3/4 ✓ Dia. of screw 13'-0" ✓ Pitch of Screw 14'-0" ✓ No. of Blades 4 ✓ State whether moceable no ✓ Total surface 60.5 sq ✓  
 No. of Feed pumps Two ✓ Diameter of ditto 6 1/2" ✓ Stroke 21" ✓ Can one be overhauled while the other is at work ✓ ✓  
 No. of Bilge pumps Two ✓ Diameter of ditto 3 3/4" ✓ 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 2 1/2 ✓ In Holds, &c. h° 1 - 2 of 2 1/2 ; h° 2 - 2 of 2 1/2 ; h° 3 - 2 of 2 1/2 ; 1 of 2 1/2 in Tunnel well. ✓  
 No. of Bilge Injections One ✓ sizes Y" ✓ Connected to condenser, or to circulating pump Pump ✓ Is a separate Donkey Suction fitted in Engine room & size Yes 3 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 ✓ ✓  
 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 Below ✓  
 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 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 Yes ✓  
 Are the Bilge Suction Pipes, Cocks, and Valves arranged so as to prevent any communication between the sea and the bilges Yes ✓  
 Is the Screw Shaft Tunnel watertight Yes ✓ Is it fitted with a watertight door Yes ✓ worked from Upper deck ✓

**BOILERS, &c.**—(Letter for record (1)) Manufacturers of Steel W. Beardmore & Co. and David Colville ✓  
 Total Heating Surface of Boilers 5000 sq ✓ Is Forced Draft fitted Yes ✓ No. and Description of Boilers Two S.E. Oyl. Mult. ✓  
 Working Pressure 180 lbs ✓ Tested by hydraulic pressure to 320 lbs ✓ Date of test 24<sup>th</sup> 29<sup>th</sup> July 1924 No. of Certificate 372 & 373 ✓  
 Can each boiler be worked separately Yes ✓ Area of fire grate in each boiler 61.8 sq ✓ No. and Description of Safety Valves to each boiler 2 Cockburn High lift type ✓ Area of each valve 5.9 sq ✓ Pressure to which they are adjusted 185 lbs ✓ Are they fitted with easing gear Yes ✓  
 Smallest distance between boilers Deck Cleating ✓ 18" ✓ Inside ✓ Mean dia. of boilers 14'-9 1/8" ✓ Length 11'-6" ✓ Material of shell plates Steel ✓  
 Thickness 1 1/32" ✓ Range of tensile strength 28/32 ✓ Are the shell plates welded or flanged no ✓ Descrip. of riveting: cir. seams DR lap ✓  
 long. seams VR ABS ✓ Diameter of rivet holes in long. seams 1 1/4" ✓ Pitch of rivets 8 5/8" ✓ Top of plates or width of butt straps 18 3/4" ✓  
 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 10 3/4 x 1 1/4 flanged ✓ No. and Description of Furnaces in each boiler 3 Morrison ✓ Material Steel ✓ Outside diameter 44 1/8" ✓  
 Length of plain part top ✓ Thickness of plates crown 9/16" ✓ bottom ✓ 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 2 1/32" ✓ Back 2 1/32" ✓ Top 2 1/32" ✓ Bottom ✓ ✓  
 Pitch of stays to ditto: Sides 8 1/2 x 9 1/4" ✓ Back 9" x 9" ✓ Top 8 1/4 x 9 1/4" ✓ If stays are fitted with nuts or riveted heads nuts ✓ Working pressure by rules 185 lbs ✓  
 Material of stays Iron ✓ Area at smallest part 1 5/8" ✓ Area supported by each stay 81 sq ✓ Working pressure by rules 188 lbs ✓ End plates in steam space: Material Steel ✓ Thickness 1 1/4" ✓ Pitch of stays 27' d = 19.1 ✓ How are stays secured Double nuts ✓ Working pressure by rules 200 lbs ✓ Material of stays Steel ✓  
Area at smallest part 3 1/4" ✓ Area supported by each stay 430.5 sq ✓ 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 14 1/2 x 9 1/2" ✓ Working pressure of plate by rules 205 lbs ✓  
 Diameter of tubes 2 1/2" ✓ Pitch of tubes 3 5/8 x 3 1/4" ✓ Material of tube plates Steel ✓ Thickness: Front 1" ✓ Back 1 3/8" ✓ Mean pitch of stays 10 7/8 x 11 1/4" ✓  
 Pitch across wide water spaces 13 1/2" ✓ Working pressures by rules 294 lbs ✓ 8 212 lbs ✓ Girders to Chamber tops: Material Steel ✓ Depth and thickness of girder at centre 8" x 1 1/2" ✓ Length as per rule 31 1/32" ✓ Distance apart 8 1/4" ✓ Number and pitch of stays in each 2 @ 9 1/4" ✓  
 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?



L100-660200-580700 002085-002093-0073

IS A DONKEY BOILER FITTED? *No.*

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. Johnson* Manufacturer.

Dates of Survey while building: During progress of work in shops -- 1924 March 15, 20, 26, April 7, 9, 11, 14, 22, 24, 28, 29, May 5, 12, 19, 23, 27, 31, June 5, 12, 19, 26, 30. During erection on board vessel --- August 10, 21, 28, 29, September 5, 12, 19. Total No. of visits 51.

Is the approved plan of main boiler forwarded herewith

Is the approved plan of main boiler forwarded herewith

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 23-7-24 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 *Patrols PV 3/8 SP 3/8 Standard boiler PV 3/8 SV 3/8*

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

Is an installation fitted for burning oil fuel  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  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 *L.M.C. 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. C.M.S.*  
19/9/24

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

The amount of Entry Fee ... £ 5 : 0 : When applied for, Special ... £ 74 : 19 : 12<sup>th</sup> Sept 1924. Donkey Boiler Fee ... £ - : - : When received, Travelling Expenses (if any) £ - : - : *20/9/24*

Committee's Minute *FRI 26 SEP 1924*  
Assigned *+ L.M.C. 9.24*

CERTIFICATE WRITTEN *+ L.M.C. 9.24*



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Certificate (if required) to be sent to  
The Surveyors are requested not to write on or below the space for Committee's Minute.

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