

REPORT ON MACHINERY.

Received at London Office 20 AUG 1924

Date of writing Report 19 When handed in at Local Office 18 AUG 1924 Port of Sunderland
 No. in Survey held at Sunderland Date, First Survey 27 + 1st Last Survey 16 Aug 1924
 Reg. Book. on the new steel S/S "JAMES DUNFORD" (Number of Visits 19)
 Master Built at Sunderland By whom built Swan Hunter & Wigham Richardson Ltd When built 1924
 Engines made at Sunderland By whom made North Eastern Marine Eng. Co. Ltd (N^o 2581) when made 1924
 Boilers made at Sunderland By whom made North Eastern Marine Eng. Co. Ltd (N^o 2581) when made 1924
 Registered Horse Power Owners Dunford Steam Ship Co Ltd Port belonging to Newcastle
 Nom. Horse Power as per Section 28 160 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 17"-28"-46" Length of Stroke 30 Revs. per minute 101 Dia. of Screw shaft as per rule 9.51" Material of screw shaft I. 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 — 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 5'-3"
 Dia. of Tunnel shaft as per rule 8.384" Dia. of Crank shaft journals as per rule 8.8" Dia. of Crank pin 9" Size of Crank webs 4"x5 5/8" Dia. of thrust shaft under
 collars 9" Dia. of screw 11.9" Pitch of Screw 11.6" No. of Blades 4 State whether moveable no Total surface 430 sq ft
 No. of Feed pumps 2 Diameter of ditto 2 3/4" Stroke 15" Can one be overhauled while the other is at work yes
 No. of Bilge pumps 2 Diameter of ditto 3" Stroke 15" Can one be overhauled while the other is at work yes
 No. of Donkey Engines 2 Sizes of Pumps 8 1/2"x8. 5 1/2"x3 3/4"x5" No. and size of Suctions connected to both Bilge and Donkey pumps
 In Engine Room 3 @ 2 1/2" In Holds, &c. Fore hold - 2 @ 2 1/2" Aft hold - 2 @ 2 3/4"
 No. of Bilge Injections 1 size 5" Connected to condenser, or to circulating pump C.P. Is a separate Donkey Suction fitted in Engine room & size yes 3 1/2"
 Are all the bilge suction pipes fitted with valves yes Are the valves 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 alive
 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 under 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 1-7-24 of Stern Tube 1-7-24 Screw shaft and Propeller 21-7-24
 Is the Screw Shaft Tunnel watertight none Is it fitted with a watertight door — worked from Inchy app

BOILERS, &c.—(Letter for record (5)) Manufacturers of Steel John Spence & Sons Ltd & The Steel Company of Scotland
 Total Heating Surface of Boilers 2944 sq ft Is Forced Draft fitted no No. and Description of Boilers Two, single ended marine 258
 Working Pressure 180 Tested by hydraulic pressure to 320 Date of test 29-5-24 No. of Certificate 3883
 Can each boiler be worked separately yes Area of fire grate in each boiler 37 sq ft No. and Description of Safety Valves to
 each boiler Two, direct spring Area of each valve 4.90" Pressure to which they are adjusted 185 Are they fitted with easing gear yes
 Smallest distance between boilers or uptakes and bunkers on woodwork 20" Mean dia. of boiler 12.8 1/2" Length 11'-0" Material of shell plates steel
 Thickness 1 1/16" Range of tensile strength 28-32 tons Are the shell plates welded or flanged no Descrip. of riveting: cir. seams WR
 long. seams DBS. TR Diameter of rivet holes in long. seams 1 3/32" Pitch of rivets 8" Lap of plates or width of butt straps 1.45/8"
 Per centages of strength of longitudinal joint rivets 85.1 Working pressure of shell by rules 181 Size of manhole in shell 16"x12"
 Size of compensating ring flanged No. and Description of Furnaces in each boiler 2 Deighton Material steel Outside diameter 3'-6 5/16"
 Length of plain part top bottom Thickness of plates crown 1 1/16" bottom 3/32" Description of longitudinal joint welded No. of strengthening rings —
 Working pressure of furnace by the rules 181 Combustion chamber plates: Material steel Thickness: Sides 25/32" Back 25/32" Top 25/32" Bottom 25/32"
 Pitch of stays to ditto: Sides 11 1/2"x10" Back 11"x10 1/2" Top 10 1/2"x10" of stays are fitted with nuts or riveted heads nuts Working pressure by rules 187
 Material of stays steel Diameter at smallest part 2.710" Area supported by each stay 137.50" Working pressure by rules 180 End plates in steam space:
 Material steel Thickness 1 3/16" Pitch of stays 21"x19" How are stays secured DN&W Working pressure by rules 185 Material of stays steel
 Diameter at smallest part 6.490" Area supported by each stay 3990" Working pressure by rules 180 Material of Front plates at bottom steel
 Thickness 7/8" Material of Lower back plate steel Thickness 29/32" Greatest pitch of stays 14 1/2"x11" Working pressure of plate by rules 204
 Diameter of tubes 3 1/4" Pitch of tubes 4 3/8"x4 1/2" Material of tube plates steel Thickness: Front 7/8" Back 25/32" Mean pitch of stays 10.8"
 Pitch across wide water spaces 14 1/2" Working pressures by rules 187 Girders to Chamber tops: Material steel Depth and
 thickness of girders at centre 20.8"x7 1/8" Length as per rule 2.716" Distance apart 10 1/2" Number and pitch of stays in each 2 @ 10"
 Working pressure by rules 187 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

IS A DONKEY BOILER FITTED? no

If so, is a report now forwarded? —

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 propeller.

The foregoing is a correct description,
FOR THE NORTH EASTERN MARINE ENGINEERING CO. LD

C. T. Adams Manufacturer.

Dates of Survey while building { During progress of work in shops -- } 1924. Mar 27 Apr 2 May 6 22 26 28 29 30 June 6 17 18 July 17 21 25 28 31 Aug 3 16
{ During erection on board vessel - - - }
Total No. of visits 19

Is the approved plan of main boiler forwarded herewith yes
" " " donkey " " " —

Dates of Examination of principal parts—Cylinders 6-6-24 Slides 7-7-24 Covers 17-6-24 Pistons 1-7-24 Rods 1-7-24
Connecting rods 6-6-24 Crank shaft 30-5-24 Thrust shaft 7-7-24 Tunnel shafts none Screw shaft 7-7-24 Propeller 7-7-24
Stern tube 18-6-24 Steam pipes tested 25-7-24 Engine and boiler seatings 1-7-24 Engines holding down bolts 31-7-24
Completion of pumping arrangements 16-8-24 Boilers fixed 25-7-24 Engines tried under steam 31-7-24
Main boiler safety valves adjusted 31-7-24 Thickness of adjusting washers Port holes: - F 3/8", A 7/16"; Starboard F 7/16", A 3/8"

Material of Crank shaft I. Steel Identification Mark on Do. LLOYDS NO 2271 L.C.D. 30-5-24 Material of Thrust shaft I. Steel Identification Mark on Do. LLOYDS NO 27095 L.C.D. 7-7-24
Material of Tunnel shafts none Identification Marks on Do. 30-5-24 Material of Screw shafts I. Steel Identification Marks on Do. LLOYDS NO 27093 L.C.D. 7-7-24
Material of Steam Pipes Lap welded wrought iron Test pressure 600 lbs per sq. in.

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 names of vessel —

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

The materials and workmanship are good.
The machinery has been constructed under special survey and is eligible in my opinion for classification and the record + LMC 8,24.

It is submitted that this vessel is eligible for THE RECORD. + LMC 8,24 C.L.

C.T.A. 21/8/24 J.P.R.

The amount of Entry Fee ... £ 3 : : When applied for, 8 AUG 1924
Special ... £ 40 : - :
Donkey Boiler Fee ... £ : : :
Travelling Expenses (if any) £ : : : When received, 22 AUG 1924

C. T. Adams
Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

Committee's Minute 22 AUG 1924
Assigned + LMC 8,24
C.L.

CERTIFICATE WRITTEN



SUNDERLAND.

The Surveyors are requested not to write on or below the space for the Surveyor's Minute.