

# REPORT ON MACHINERY.

No. 28892

Received at London Office 21 AUG 1924

Date of writing Report 10 When handed in at Local Office 20 AUG 1924 Port of Sunderland  
No. in Survey held at Sunderland Reg. Book. Date, First Survey 6 May 24 Last Survey 19 Aug 1924  
on the (Number of Vistas 17)

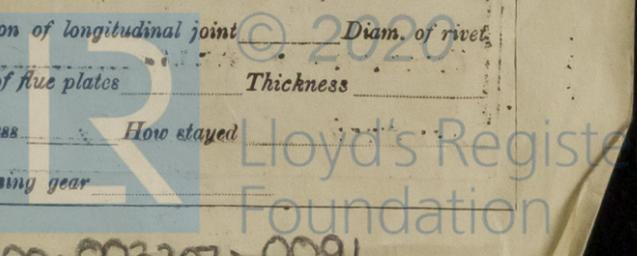
Master Built at Hoboken By whom built Antwerp Eng Co Ld (No 83) When built 1924  
Engines made at Sunderland By whom made N.E. Marine Eng Co Ld (No 2558) when made 1924  
Boilers made at Sunderland By whom made N.E. Marine Eng Co Ld (No 2558) when made 1924  
Registered Horse Power Owners Port belonging to

Nom. Horse Power as per Section 28 214 Is Refrigerating Machinery fitted for cargo purposes Is Electric Light fitted

**ENGINES, &c.**—Description of Engines Triple expansion No. of Cylinders 3 No. of Cranks 3  
Dia. of Cylinders 20-33-54 Length of Stroke 36 Revs. per minute 80 Dia. of Screw shaft as per rule 11.38 Material of screw shaft J. 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 3-10 1/2  
Dia. of Tunnel shaft as per rule 9.93 as fitted 10 1/8 Dia. of Crank shaft journals as per rule 10.4 as fitted 10 5/8 Dia. of Crank pin 10 5/8 Size of Crank webs 16 x 6 1/2 Dia. of thrust shaft under  
collars 10 5/8 Dia. of screw 14-3 Pitch of Screw 13-9 No. of Blades 4 State whether moceable no Total surface 63 sq ft  
No. of Feed pumps 2 Diameter of ditto 3 Stroke 21 Can one be overhauled while the other is at work yes  
No. of Bilge pumps 2 Diameter of ditto 3 1/2 Stroke 21 Can one be overhauled while the other is at work yes  
No. of Donkey Engines 2 Sizes of Pumps 9 1/2 x 10 x 10 6 1/4 x 6 No. and size of Suctions connected to both Bilge and Donkey pumps  
In Engine Room In Holds, &c.

No. of Bilge Injections Connected to condenser, or to circulating pump Is a separate Donkey Suction fitted in Engine room & size  
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  
Are they sized 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  
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 How are they protected  
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  
Dates of examination of completion of fitting of Sea Connections of Stern Tube Screw shaft and Propeller  
Is the Screw Shaft Tunnel watertight Is it fitted with a watertight door worked from

**BOILERS, &c.**—(Letter for record (5)) Manufacturers of Steel Steel Company of Scotland & David Beith & Co Ltd.  
Total Heating Surface of Boilers 36220 sq ft Is Forced Draft fitted no No. and Description of Boilers Two single ended marine  
Working Pressure 180 Tested by hydraulic pressure to 320 Date of test 29-7-24 No. of Certificate 3892  
Can each boiler be worked separately Area of fire grate in each boiler 46 sq ft No. and Description of Safety Valves to  
each boiler Two direct spring Area of each valve 5.93 sq ft Pressure to which they are adjusted Are they fitted with easing gear  
Smallest distance between boilers or uptakes and bunkers or woodwork Mean dia. of boilers 14-0 Length 10-6 Material of shell plates steel  
Thickness 1 1/4 Range of tensile strength 28-32 tons Are the shell plates welded or flanged no Descrip. of riveting: cir. seams DR  
long. seams DBSTR Diameter of rivet holes in long. seams 1 3/16 Pitch of rivets 8 7/16 Lap of plates or width of butt straps 1-5 3/4  
Per centages of strength of longitudinal joint rivets 88.63 plate 85.92 Working pressure of shell by rules 182 Size of manhole in shell 16 x 12  
Size of compensating ring flanged No. and Description of Furnaces in each boiler 3 masonry Material steel Outside diameter 3-1  
Length of plain part top Thickness of plates crown 3/2 Description of longitudinal joint welded No. of strengthening rings  
Working pressure of furnace by the rules 182 Combustion chamber plates: Material steel Thickness: Sides 3/32 Back 25/32 Top 23/32 Bottom 23/32  
Pitch of stays to ditto: Sides 10 1/2 x 9 1/2 Back 10 1/6 x 11 1/2 Top 9 1/2 x 9 If stays are fitted with nuts or riveted heads nuts Working pressure by rules 181  
Material of stays steel Diameter at smallest part 2.030 Area supported by each stay 100.60 Working pressure by rules 180 End plates in steam space  
Material steel Thickness 1/2 Pitch of stays 2-0 1/16 x 7 3/8 How are stays secured DN & W Working pressure by rules 180 Material of stays steel  
Diameter at smallest part 7.060 Area supported by each stay 428.950 Working pressure by rules 183 Material of Front plates at bottom steel  
Thickness 7/8 Material of Lower back plate steel Thickness 7/8 Greatest pitch of stays 15 1/2 x 10 1/6 Working pressure of plate by rules 183  
Diameter of tubes 3 1/4 Pitch of tubes 4 3/4 x 4 1/2 Material of tube plates steel Thickness: Front 7/8 Back 25/32 Mean pitch of stays 11  
Pitch across wide water spaces 1-3 (25/32) Working pressures by rules 191. Girders to Chamber tops: Material steel Depth and  
thickness of girder at centre 29 1/4 x 3/4 Length as per rule 2-6 1/2 Distance apart 9 Number and pitch of stays in each 20 x 9 1/2  
Working pressure by rules 185 Superheater or Steam chest; how connected to boiler 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?

If so, is a report now forwarded?

SPARE GEAR. State the articles supplied :-

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. May 6 22 June 6 12 14 July 17 19 11 16 18 23 29 31 Aug 7 11 19  
{ During erection on board vessel - - - }  
Total No. of visits 17

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

Dates of Examination of principal parts - Cylinders 9-7-24 Slides 7-8-24 Covers 18-7-24 Pistons 23-7-24 Rods 31-7-24  
Connecting rods 18-7-24 Crank shaft 18-7-24 Thrust shaft 23-7-24 Tunnel shafts 23-7-24 Screw shaft 31-7-24 Propeller 1-7-24  
Stern tube 23-7-24 Steam pipes tested Engine and boiler seatings Engines holding down bolts  
Completion of pumping arrangements Boilers fixed Engines tried under steam  
Main boiler safety valves adjusted Thickness of adjusting washers

Material of Crank shaft I. Steel Identification Mark on Do. LLOYD'S N° 6869 Material of Thrust shaft I. Steel Identification Mark on Do. LLOYD'S N° 6869  
Material of Tunnel shafts I. Steel Identification Marks on Do. L.C.D. data as above Material of Screw shafts I. Steel Identification Marks on Do. L.C.D. data as above

Material of Steam Pipes Test pressure

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 yes If so, state name of vessel "Dunston" (S/Rpt N° 28785)

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

The materials and workmanship are good  
The machinery was constructed under special survey and is about to be sent to Hoboken to be fitted in the vessel

SUNDERLAND.

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

The amount of Entry Fee ... £ 4 :  
Special fee ... £ 42 : 16  
Donkey Boiler Fee ... £ 10 : 14  
Travelling Expenses (if any) £ : :  
When applied for, 20 AUG 1924  
When received, 15-9-1924

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

Committee's Minute TUES. 28 OCT 1924  
Assigned \_\_\_\_\_

