

Rpt. 4.

## REPORT ON MACHINERY.

No. 27847

Date of writing Report 19 When handed in at Local Office 28 JUN 1920 Port of Sunderland  
No. in Survey held at Sunderland Date, First Survey 26 Aug 19 Last Survey 19  
Reg. Book. 1392 on the new steel S/S "ANTINEA".  
Master Built at Burntisland By whom built Burntisland SBC. (S/N 106) When built 1920  
Engines made at Sunderland By whom made North Eastern Marine Eng. Co. Ld. (N° 2448) when made 1920  
Boilers made at Sunderland By whom made North Eastern Marine Eng. Co. Ld. (N° 2448) when made 1920  
Registered Horse Power Owners Cie Auxiliaire de Navigation Port belonging to Nantes  
Nom. Horse Power as per Section 28 237 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 21"-34" 57" Length of Stroke 36" Revs. per minute 77 Dia. of Screw shaft as per rule 11.83" Material of screw shaft as fitted 12" screw shaft  
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 yes If two liners are fitted, is the shaft lapped or protected between the liners Length of stern bush 4'-0 1/2"  
Dia. of Tunnel shaft as per rule 10.23" Dia. of Crank shaft journals as per rule 10.74" Dia. of Crank pin 11 1/2" Size of Crank webs 17 1/2" x 6 1/4" Dia. of thrust shaft under collars 11" Dia. of screw 15'-0" Pitch of Screw 13'-11" No. of Blades 4 State whether moveable no Total surface 710 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 7 1/4 & 9 x 10. 6 & 4 x 6 No. and size of Suctions connected to both Bilge and Donkey pumps In Engine Room 3 @ 3" In Holds, &c. N° 1 hold - 2 @ 3" N° 2 hold - 2 @ 3"  
N° 3 hold - 2 @ 3" N° 4 hold - 1 @ 3 1/2" Tunnel well - 1 @ 2 1/2"  
No. of Bilge Injections 1 sizes 6" Connected to condenser, or to circulating pump P. 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 yes  
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 X  
What pipes are carried through the bunkers forward hold suction How are they protected under lumber plates  
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 X Is it fitted with a watertight door X worked from X

BOILERS, &c.—(Letter for record (S) Manufacturers of Steel John Spencer & Sons Ld.  
Total Heating Surface of Boilers 40180 ft. Is Forced Draft fitted no No. and Description of Boilers two single ended marine  
Working Pressure 180 Tested by hydraulic pressure to 360 Date of test 17-12-19 No. of Certificate 3638  
Can each boiler be worked separately yes Area of fire grate in each boiler 490 ft. No. and Description of Safety Valves to each boiler two direct spring Area of each valve 12.560" Pressure to which they are adjusted 185 Are they fitted with easing gear yes  
Smallest distance between boilers on plates and bunkers on woodwork 18" End. Mean dia. of boilers 14'-9" Length 10'-6" Material of shell plates steel  
Thickness 1 1/2" Range of tensile strength 28-32 tons Are the shell plates welded or flanged no Descrip. of riveting: cir. seams DR  
long. seams DR S. TR Diameter of rivet holes in long. seams 1 1/2" Pitch of rivets 9 1/16" Lap of plates or width of butt straps 19 1/2"  
Per centages of strength of longitudinal joint rivets 86.73 plate 86.61 Working pressure of shell by rules 180 Size of manhole in shell 16" x 12"  
Size of compensating ring flanged No. and Description of Furnaces in each boiler 3 Deighton Material steel Outside diameter 3'-8 1/2"  
Length of plain part top 7' 1 1/2" crown 7' 3 1/2" bottom Description of longitudinal joint welded No. of strengthening rings —  
Working pressure of furnace by the rules 184 Combustion chamber plates: Material steel Thickness: Sides 25" Back 25" Top 25" Bottom 25"  
Pitch of stays to ditto: Sides 9 1/2" x 12" Back 11" x 10 1/2" Top 11" x 9 1/2" If stays are fitted with nuts or riveted heads nuts Working pressure by rules 180  
Material of stays steel Area at smallest part 2.360" Area supported by each stay 115.50" Working pressure by rules 184 End plates in steam space:  
Material steel Thickness 1 1/2" Pitch of stays 2 1/2" x 19" How are stays secured BN&W Working pressure by rules 182 Material of stays steel  
Area at smallest part 7.060" Area supported by each stay 4050" Working pressure by rules 181 Material of Front plates at bottom steel  
Thickness 1 1/2" Material of Lower back plate steel Thickness 1 1/2" Greatest pitch of stays 14 1/2" x 10 1/2" Working pressure of plate by rules 190  
Diameter of tubes 3 1/2" Pitch of tubes 4 5/8" x 4 1/2" Material of tube plates steel Thickness: Front 1 1/2" Back 3/4" Mean pitch of stays 10 1/2"  
Pitch across wide water spaces 14 1/2" (500P) Working pressures by rules 185 Girders to Chamber tops: Material steel Depth and thickness of girder at centre 2 @ 8 1/2" x 1" Length as per rule 31.47" Distance apart 11" Number and pitch of stays in each 2 @ 9 1/2"  
Working pressure by rules 190 Steam dome: description of joint to shell none % 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  
UPPER HEATER. Type 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

W458-0183



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. one propeller

The foregoing is a correct description,

FOR THE NORTH EASTERN MARINE ENGINEERING CO. LD

Geo. D. Green

Manufacturer.

Dates of Survey while building { During progress of work in shops - - 1919 Aug 11 Sep 24 Oct 6 22 28 30 31 Nov 14 20 24 26 Dec 2 23 29 30 31 Jan 7 13 19 25 31 Feb 13 Mar 2 16 24 26 Apr 9 May 17 24 27 28 31 June 4 11 15 16  
During erection on board vessel - - -  
Total No. of visits (44 + )

Is the approved plan of main boiler forwarded herewith yes

" " " donkey " " " no

Dates of Examination of principal parts—Cylinders 7-1-20 Slides 2-3-20 Covers 19-12-19 Pistons 16-12-19 Rods 16-1-20

Connecting rods 8-12-19 Crank shaft 9-12-19 Thrust shaft 19-12-19 Tunnel shafts 24-3-20 Screw shaft 9-4-20 Propeller 16-1-20

Stern tube 16-3-20 Steam pipes tested 31-5-20 Engine and boiler seatings Engines holding down bolts 4-6-20

Completion of pumping arrangements 16-6-20 Boilers fixed 28-5-20 Engines tried under steam 16-6-20

Completion of fitting sea connections Stern tube 21-5-20 Screw shaft and propeller 21-5-20

Main boiler safety valves adjusted 16-6-20 Thickness of adjusting washers Port boiler F 1/2 "A 7/8" Star boiler

Material of Crank shaft Steel Identification Mark on Do. LLOYD'S Material of Thrust shaft Steel Identification Mark on Do. LLOYD'S

Material of Tunnel shafts Steel Identification Marks on Do. LLOYD'S Material of Screw shafts Scrap Iron Identification Marks on Do. LLOYD'S

Material of Steam Pipes Lapwelded mild iron Test pressure 540 lb per sq in

Is an installation fitted for burning oil fuel yes Is the flash point of the oil to be used over 150°F. yes

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

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 materials and workmanship are good.  
The machinery has been constructed under special survey and is eligible in  
our opinion for classification and the record + LMC with date when the  
survey is complete.

To complete the survey the shaft tunnel requires to be made watertight and fitted with  
its watertight door. The vessel has left for the builders' quay. Both surveyors advised

It is submitted that  
this vessel is eligible for  
THE RECORD + LMC 7. 20.

Fitted for oil fuel 7. 20. F.P. above 150°F.

The amount of Entry Fee ... £ 2 : - :  
Special M ... £ 31 : 17 :  
Donkey Boiler Fee ... £ : :  
Travelling Expenses (if any) £ : :  
When applied for, 28 JUN 1920  
When received, 16/7/1920

S. C. Davis

Engineer Surveyor to Lloyd's Register of Shipping.

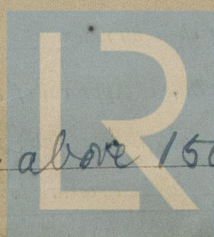
Committee's Minute

FRI JUL 23 1920

Assigned

MACHINERY  
WRITTEN

+ LMC 7. 20  
Fitted for oil fuel 7. 20 F.P. above 150°F.



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Foundation