

REPORT ON MACHINERY.

No. 66429

Date of writing Report 15th July 1914 When handed in at Local Office JUL 21 1914 Port of NEWCASTLE-ON-TYNE
No. in Survey held at Newcastle Date, First Survey 3rd Apr 1914 Last Survey 21st July 1914
Reg. Book. 71 on the Machinery of the S.S. "Van der Duyn" Number of Visits 25
Master Swan Hunter & Co. Built at Newcastle By whom built North Eastern Marine Eng. Co. When built 1914
Engines made at Newcastle By whom made North Eastern Marine Eng. Co. when made 1914
Boilers made at " By whom made " when made 1914
Registered Horse Power 440 Owners Wambour & Co. Port belonging to Rotterdam
Nom. Horse Power as per Section 28 440 Is Refrigerating Machinery fitted for cargo purposes Yes Is Electric Light fitted Yes

ENGINES, &c.—Description of Engines Triple No. of Cylinders 3 No. of Cranks 3
Dia. of Cylinders 23", 38", 63" Length of Stroke 39" Revs. per minute 100 Dia. of Screw shaft 12 1/4" Material of 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 Yes 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 Yes Length of stern bush 4' 1 1/4"
Dia. of Tunnel shaft 11 1/2" Dia. of Crank shaft journals 11 7/8" Dia. of Crank pin 11 7/8" Size of Crank webs 19" x 7 1/2" Dia. of thrust shaft under collars 12 1/8" Dia. of screw 14' 3" Pitch of Screw 14' 3" No. of Blades 4 State whether moceable No Total surface 60 sq ft
No. of Feed pumps 2 Diameter of ditto 7" Stroke 18" 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 3 Sizes of Pumps 8" x 9" x 8", 7" x 4 1/2" x 8" & 4 1/2" x 3 1/2" x 4" No. and size of Suctions connected to both Bilge and Donkey pumps 2 of 2 1/2" in tunnel well
In Engine Room 4 of 3" In Holds, &c. 2 of 3" in each hold
No. of Bilge Injections 1 sizes 7" Connected to condenser, or to circulating pump pumps a separate Donkey Suction fitted in Engine room & size 3"
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 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 both
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 none How are they protected Yes
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 6/5/14 of Stern Tube 6/5/14 Screw shaft and Propeller 15/6/14
Is the Screw Shaft Tunnel watertight Yes Is it fitted with a watertight door Yes worked from Top platform

BOILERS, &c.—(Letter for record B) Manufacturers of Steel J. & S. Pinner 29 Sons
Total Heating Surface of Boilers 7308 Is Forced Draft fitted Yes No. and Description of Boilers 3 Single-ended
Working Pressure 180 lbs Tested by hydraulic pressure to 360 lbs Date of test 22 & 26/5/14 No. of Certificate 8659 & 8661
Can each boiler be worked separately Yes Area of fire grate in each boiler 58 sq ft No. and Description of Safety Valves to each boiler 2 direct spring Area of each valve 9.6 sq in Pressure to which they are adjusted 180 lbs Are they fitted with easing gear Yes
Smallest distance between boilers or uptakes and bunkers or woodwork 17" inside Mean dia. of boilers 15' 0 3/8" Length 11' 8 1/2" Material of shell plates steel
Thickness 1 5/16" Range of tensile strength 29 3/4 - 33 tons Are the shell plates welded or flanged no Descrip. of riveting: cir. seams d. r. lap
long. seams d. r. d. butt Diameter of rivet holes in long. seams 1 3/8" Pitch of rivets 9 1/2" Lap of plates or width of butt straps 20 1/8"
Per centages of strength of longitudinal joint 88.5 Working pressure of shell by rules 208 lbs Size of manhole in shell 16" x 12"
Size of compensating ring flanged No. and Description of Furnaces in each boiler 3 Horisons Material steel Outside diameter 47 1/2"
Length of plain part top Thickness of plates crown 19 1/32" Description of longitudinal joint welded No. of strengthening rings 1
Working pressure of furnace by the rules 198 lbs Combustion chamber plates: Material steel Thickness: Sides 2 3/32" Back 2 3/32" Top 2 3/32" Bottom 7/8"
Pitch of stays to ditto: Sides 9 1/4" x 10" Back 9 1/4" x 10" Top 9 1/4" x 10" If stays are fitted with nuts or riveted heads nuts Working pressure by rules 191 lbs
Material of stays steel Diameter at smallest part 2.03 Area supported by each stay 92.5 Working pressure by rules 197 lbs End plates in steam space: are
Material steel Thickness 1 5/32" Pitch of stays 25" x 2 1/2" How are stays secured d. n. w. Working pressure by rules 183 lbs Material of stays steel
Diameter at smallest part 11.14 Area supported by each stay 543.7 Working pressure by rules 210 lbs Material of Front plates at bottom steel
Thickness 1 Material of Lower back plate steel Thickness 1 Greatest pitch of stays 14" x 9 1/4" Working pressure of plate by rules 246 lbs
Diameter of tubes 2 1/2" Pitch of tubes 3 3/4" Material of tube plates steel Thickness: Front 1" Back 3/4" Mean pitch of stays 7 1/2"
Pitch across wide water spaces 14" Working pressures by rules 196 lbs Girders to Chamber tops: Material steel Depth and thickness of girder at centre 9 3/4" x 1 1/2" Length as per rule 33 1/2" Distance apart 10" Number and pitch of stays in each 2 of 9 1/4"
Working pressure by rules 181 lbs Superheater or Steam chest; how connected to boiler none Can the superheater be shut off and the boiler worked separately Yes Diameter Yes Length Yes Thickness of shell plates Yes Material Yes Description of longitudinal joint Yes Diam. of rivet holes Yes Pitch of rivets Yes Working pressure of shell by rules Yes Diameter of flue Yes Material of flue plates Yes Thickness Yes
If stiffened with rings Yes Distance between rings Yes Working pressure by rules Yes End plates: Thickness Yes How stayed Yes
Working pressure of end plates Yes Area of safety valves to superheater Yes Are they fitted with easing gear Yes

IS A DONKEY BOILER FITTED?

If so, is a report now forwarded?

SPARE GEAR. State the articles supplied:-

Two top end & 2 bottom end bolts 2 main bearing bolts, 1 set of coupling bolts, 1 set of feed & bilge pump valves, a quantity of assorted bolts nuts & iron, 1 propeller shaft, 1 crank shaft, top & bottom end brasses & minor details.

The foregoing is a correct description,
NORTH EASTERN MARINE ENGINEERING Co., LTD.

Secretary. Manufacturer.

1914
Dates of Survey while building { During progress of work in shops - - - } Apr. 3. 6. 17. 20. 21. 27. 28. 29. 30. May 1. 5. 6. 7. 11. 15. 22. 25. 26. 27. 28. Jun 15. 18. 23. Jul 7. 9. 13
{ During erection on board vessel - - - } 20. 21.
Total No. of visits 28

Is the approved plan of main boiler forwarded herewith

yes

" " " donkey " " "

Dates of Examination of principal parts—Cylinders 28/5/14 Slides 25/5/14 Covers 20/4/14 Pistons 1/5/14 Rods 28/5/14
Connecting rods 28/5/14 Crank shaft 4/5/14 Thrust shaft 29/4/14 Tunnel shafts 20/4/14 Screw shaft 27/4/14 Propeller 15/5/14
Stern tube 27/4/14 Steam pipes tested 24/4 27/4/14 Engine and boiler seatings 6/5/14 Engines holding down bolts 15/6/14
Completion of pumping arrangements 13/7/14 Boilers fixed 15/6/14 Engines tried under steam 13/7/14
Main boiler safety valves adjusted 13/7/14 Thickness of adjusting washers Aft P. P. 1/2 S. 7/16 S. P. 3/8 S. 3/8 Fore P. 1/2 S. 15/32

Material of Crank shaft Steel Identification Mark on Do. 5/5/14 Material of Thrust shaft Steel Identification Mark on Do. 29/4/14

Material of Tunnel shafts Steel Identification Marks on Do. 20/4/14 Material of Screw shafts Steel Identification Marks on Do. 30/4/14

Material of Steam Pipes Lap welded iron 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 machinery of this vessel has been built under special survey, the materials used are good, and the workmanship is satisfactory, it has been properly fitted on board and secured, and the engines have been tried under full power. In my opinion the vessel is eligible for the record of + L.M.C. 7.14

It is submitted that
this vessel is eligible for
THE RECORD. + L.M.C. 7.14.

F.D.

APR 14

JUL 13/7/14

The amount of Entry Fee ... £ 3 : " :
Special ... £ 42 : " :
Donkey Boiler Fee ... £ : :
Travelling Expenses (if any) £ : :
When applied for, JUL 21 1914
When received, 31/7/14

Charles Cooper
Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

Committee's Minute FRI. JUL. 24. 1914

Assigned

+ L.M.C. 7.14. F.D.

MACHINERY CERTIFICATE
WRITTEN



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Foundation