

REPORT ON MACHINERY.

No. 67356

SAT. APR. - 3. 1915

Received at London Office

Date of writing Report 30th Mar 1915 When taken in at Local Office 30th Mar 1915 Port of NEWCASTLE-ON-TYNENo. in Survey held at Newcastle Date, First Survey Aug. 5. 1914 Last Survey Mar 24. 1915
Reg. Book. 41 Sup on the Machinery of the S.S. "Gaboorn" (Number of Visits 4)Master A. Day. Built at Newcastle By whom built Tynes Iron & B. Co. Tons Gross 3246 Net 2004
When built 1915

Engines made at Newcastle By whom made North Eastern Marine Eng. when made 1915

Boilers made at " By whom made " when made 1915

Registered Horse Power 429 Owners Elster Dempster & Co. Port belonging to Liverpool

Nom. Horse Power as per Section 28 429 Is Refrigerating Machinery fitted for cargo purposes no Is Electric Light fitted Yes

ENGINES, &c.—Description of Engines Triple No. of Cylinders 3 No. of Cranks 3

Dia. of Cylinders 25", 41", 68" Length of Stroke 45" Revs. per minute 72 Dia. of Screw shaft as per rule 13.83 Material of screw shaft as fitted 14 1/4

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 5'-0"

Dia. of Tunnel shaft as per rule 12.407 Dia. of Crank shaft journals as per rule 13.026 Dia. of Crank pin 13 1/4 Size of Crank webs 20 3/8 x 8 1/2 Dia. of thrust shaft under

collars 13 1/4 Dia. of screw 16-9 Pitch of Screw 14-6 No. of Blades 4 State whether moveable no Total surface 85 5/8

No. of Feed pumps 2 Diam. of ditto 9 1/2 Stroke 18 Can one be overhauled while the other is at work Yes

No. of Bilge pumps 2 Diam. of ditto 4 Stroke 24 Can one be overhauled while the other is at work Yes

No. of Donkey Engines 2 Sizes of Pumps 7 x 8 x 8 1/2 7 1/2 x 5 x 6 No. and size of Suctions connected to both Bilge and Donkey pumps

In Engine Room 4 of 3 In Holds, &c. 2 of 3 in each hold 2

1 of 2 1/4 in tunnel well

No. of Bilge Injections 1 size 8 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 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 Yes

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

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 30/12/14 of Stern Tube 30/12/14 Screw shaft and Propeller 3/2/15

Is the Screw Shaft Tunnel watertight Yes Is it fitted with a watertight door Yes worked from Top platform

BOILERS, &c.—(Letter for record S) Manufacturers of Steel J. Spencer & Son

Total Heating Surface of Boilers 5524 Is Forced Draft fitted Yes No. and Description of Boilers 2 Single ended & 1 Horiz.

Working Pressure 180 lbs Tested by hydraulic pressure to 360 lbs Date of test 18/12/14 No. of Certificate 8744

Can each boiler be worked separately Yes Area of fire grate in each boiler 61.8 5/8 No. and Description of Safety Valves to

each boiler 2 Direct spring Area of each valve 11 Pressure to which they are adjusted 185 lbs Are they fitted with easing gear Yes

Smallest distance between boilers or uptakes and bunkers or woodwork 27 Mean dia. of boilers 15'-3 3/4 Length 12'-0 Material of shell plates Steel

Thickness 17/32 Range of tensile strength 28 3/4-32 tons Are the shell plates welded or flanged no Descrip. of riveting: cir. seams d. r. Lap

long. seams E. r. d. butt Diameter of rivet holes in long. seams 1 9/32 Pitch of rivets 8 5/16 Lap of plates or width of butt straps 18 7/8

Per centages of strength of longitudinal joint rivets 85.6 Working pressure of shell by rules 184 lbs Size of manhole in shell 16" x 12"

Size of compensating ring flanged No. and Description of Furnaces in each boiler 3 Doughton Material Steel Outside diameter 47 1/2

Length of plain part top Thickness of plates crown 9/16 Description of longitudinal joint welded No. of strengthening rings

Working pressure of furnace by the rules 185 lbs Combustion chamber plates: Material Steel Thickness: Sides 23/32 Back 23/32 Top 23/32 Bottom 1 1/32

Pitch of stays to ditto: Sides 10 1/2 x 9 3/4 Back 10 x 9 3/4 Top 10 1/2 x 9 3/4 If stays are fitted with nuts or riveted heads nuts Working pressure by rules 180.5 lbs

Material of stays Steel Diameter at smallest part 2.03 Area supported by each stay 98 Working pressure by rules 185 lbs End plates in steam space

Material Steel Thickness 1 5/32 Pitch of stays 25 x 22 1/4 How are stays secured a new Working pressure by rules 182.8 lbs Material of stays Steel

Diameter at smallest part 9.62 Area supported by each stay 5.56 Working pressure by rules 180 lbs Material of Front plates at bottom Steel

Thickness 1 Material of Lower back plate Steel Thickness 23/32 Greatest pitch of stays 14 1/2 x 9 3/4 Working pressure of plate by rules 186 lbs

Diameter of tubes 2 1/2 Pitch of tubes 3 3/4 Material of tube plates Steel Thickness: Front 1 Back 1 1/16 Mean pitch of stays 7 1/2

Pitch across wide water spaces 14 1/2 Working pressures by rules 195 lbs Girders to Chamber tops: Material Steel Depth and

thickness of girder at centre 9 1/2 x 15 1/8 Length as per rule 36 Distance apart 9 3/8 Number and pitch of stays in each 2 of 10 1/2

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 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

012888-012897-0084

IS A DONKEY BOILER FITTED? *Yes*

If so, is a report now forwarded? *Yes*

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 spare propeller & minor details.

The foregoing is a correct description.

NORTH EASTERN MARINE ENGINEERING CO., LTD.

S. T. Harrison

Secretary

Manufacturer.

Dates of Survey while building { During progress of work in shops - - - *1914 Aug. 5, 7, 11, 14, Sep. 22, 24, 25, 28, 29, Oct. 5, 16, 19, 26, 27, Nov. 2, 11, 17, 18, 25, 26, Dec. 4, 8, 14, 17, 18, 22, 30*
During erection on board vessel - - - *1915 Jan. 8, 15, 26, Feb. 4, 6, 10, 11, 18, 23, Mar. 4, 10, 16, 24, 29*
Total No. of visits *41*

Is the approved plan of main boiler forwarded herewith *yes*

" " " donkey " " " *yes*

Dates of Examination of principal parts—Cylinders *26/10/14* Slides *17/12/14* Covers *8/12/14* Pistons *17/12/14* Rods *24/9/14*
Connecting rods *24/9/14* Crank shaft *19/10/14* Thrust shaft *22/9/14* Tunnel shafts *5/10/14* Screw shaft *17/11/14* Propeller *26/1/15*
Stern tube *18/11/14* Steam pipes tested *10/11/15* Engine and boiler seatings *30/12/14* Engines holding down bolts *8/2/15*
Completion of pumping arrangements *24/3/15* Boilers fixed *8/2/15* Engines tried under steam *4/3/15*
Main boiler safety valves adjusted *4/3/15* Thickness of adjusting washers *PP 5/8" S. P 3/4" S 1/4"*
Material of Crank shaft *Steel* Identification Mark on Do. *30/11/14* Material of Thrust shaft *Steel* Identification Mark on Do. *22/9/14*
Material of Tunnel shafts *Iron* Identification Marks on Do. *5/10/14* Material of Screw shafts *Iron* Identification Marks on Do. *17/11/14*
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 this vessel is eligible for the record of L.M.C. 3, 15.

It is submitted that
this vessel is eligible for
THE RECORD, + LMC 3, 15.

2SB (FD) & 1Aux SB.

The amount of Entry Fee *£ 3*
Special *£ 39.15*
Donkey Boiler Fee *£ 1.00*
Travelling Expenses (if any) *£*

When applied for,

When received,

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

Committee's Minute *WED. APR. - 7. 1915*

Assigned *+ LMC 3, 15*



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Foundation