

REPORT ON MACHINERY.

No. 73374

Received at London Office

Date of writing Report 24 July 1920 When handed in at Local Office 24 July 1920 Port of Newcastle
 No. in Survey held at Hebburn & Jarrow Date, First Survey 17 June Last Survey 16 July 1920
 Reg. Book. on the EASTERNER 4. Kilham (Number of Visits 2)

Master _____ Built at Middlesbrough By whom built Smiths Dock Coy Ltd When built 1918
 Engines made at Middlesbrough By whom made Smiths Dock Coy Ltd when made 1918
 Boilers made at Middlesbrough By whom made Smiths Dock Coy Ltd when made 1918
 Registered Horse Power _____ Owners Robinson Down Co. Port belonging to Newcastle on Tyne

Nom. Horse Power as per Section 28 116 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 16-26-44 Length of Stroke 26 Revs. per minute _____ Dia. of Screw shaft as per rule 8.5 Material of screw shaft Steel
 as fitted 8.75

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 48 1/2

Dia. of Tunnel shaft as per rule 4.95 Dia. of Crank shaft journals as per rule 8.35 Dia. of Crank pin 8 3/4 Size of Crank webs 13x5 1/2 Dia. of thrust shaft under _____
 as fitted 8 1/4 as fitted 8 1/4

collars 8 1/2 Dia. of screw 1 1/4 Pitch of Screw 8-6 No. of Blades 4 State whether moveable no Total surface 36 1/4

No. of Feed pumps 2 Diameter of ditto 4 Stroke 18 Can one be overhauled while the other is at work yes
 No. of Bilge pumps one Diameter of ditto 6 Stroke 6 Can one be overhauled while the other is at work ✓

No. of Donkey Engines Belg. type Sizes of Pumps _____ No. and size of Suctions connected to both Bilge and Donkey pumps _____

In Engine Room Boiler room. one 7 1/2. E.R. 2 1/2. Tunnel 2 1/2 In Holds, &c. 7 P. 2 1/2. No 1 hold 1 of 2 1/2. port side
No. 2 hold one of 2 1/2 (S) aft hold 1. 2 1/2 (P) 1. 2 1/2 (S)

No. of Bilge Injections 1 sizes 6 Connected to condenser, or to circulating pump pump Is a separate Donkey Suction fitted in Engine room & size yes 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 ✓

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 yes

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 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 yes Is it fitted with a watertight door yes worked from closed by hand in Super Room
secured by screw clamps.

BOILERS, &c.—(Letter for record S) Manufacturers of Steel _____

Total Heating Surface of Boilers 1825 sq ft Is Forced Draft fitted no No. and Description of Boilers mes 2 cyl. multitubular
Boilers built under Port of Callis Corporation Survey rules.

Working Pressure 200 lbs Tested by hydraulic pressure to 400 lbs Date of test 11.2.18 No. of Certificate 9187 RN

Can each boiler be worked separately _____ Area of fire grate in each boiler 57.5 sq ft No. and Description of Safety Valves to _____

each boiler two direct spring Area of each valve 5.94 sq in Pressure to which they are adjusted 205 lbs Are they fitted with easing gear yes

Smallest distance between boilers or uptakes and bunkers or woodwork 11 Mean dia. of boilers 156 Length 11-6 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 SR Lap
 long. seams TR JB S Diameter of rivet holes in long. seams 1 1/4 Pitch of rivets 9 1/16 Lap of plates or width of butt straps 19

Per centages of strength of longitudinal joint _____ Working pressure of shell by rules 200 lbs Size of manhole in shell 16 x 12
 rivets 86.59% plate 85.56%

Size of compensating ring 2' 1 1/2 x 2' 7 1/2 No. and Description of Furnaces in each boiler 3 corrugated Material steel Outside diameter 8' 5 3/4

Length of plain part _____ Thickness of plates _____ Description of longitudinal joint weld No. of strengthening rings ✓
 top _____ bottom _____ crown 7/16 bottom _____

Working pressure of furnace by the rules 210 lbs Combustion chamber plates: Material steel Thickness: Sides 11/16 Back 11/16 Top 11/16 Bottom 1

Pitch of stays to ditto: Sides 8 3/4 x 9 Back 8 1/2 x 9 Top 8 1/2 x 9 If stays are fitted with nuts or riveted heads nuts Working pressure by rules 205 lbs

Material of stays steel Area at smallest part 2.03 Area supported by each stay 1875 Working pressure by rules 226 End plates in steam space: _____

Material steel Thickness 1 3/16 Pitch of stays 17 1/2 x 17 1/2 How are stays secured 5 1/2 riv Working pressure by rules 218 lbs Material of stays steel

Area at smallest part 2 3/4 dia Area supported by each stay 506 Working pressure by rules 202 Material of Front plates at bottom steel

Thickness 1 Material of Lower back plate steel Thickness 1 Greatest pitch of stays 14 1/2 x 8 3/4 Working pressure of plate by rules 241 lbs

Diameter of tubes 2 1/2 Pitch of tubes 3 3/4 x 3 7/8 Material of tube plates steel Thickness: Front 1 Back 3/4 Mean pitch of stays 9 3/32

Pitch across wide water spaces 13 1/4 Working pressures by rules 204 lbs Girders to Chamber tops: Material steel Depth and _____

thickness of girder at centre 8 x 1 3/4 Length as per rule 31 1/4 Distance apart 8 1/2 Number and pitch of stays in each 2 x 9 1/2 pitch

Working pressure by rules 202 Steam dome: description of joint to shell _____ % 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 _____

SUPERHEATER. 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 _____



IS A DONKEY BOILER FITTED? *non*

If so, is a report now forwarded?

SPARE GEAR. State the articles supplied:— *Two top end bolts nuts, two bottom end bolts nuts, two bottom end bolts nuts, spare coupling bolts nuts, spare valves & packets for pumps and a quantity of small parts & stores, assorted wire, bolts nuts*

The foregoing is a correct description,

Manufacturer.

Dates of Survey while building { During progress of work in shops - - }
{ During erection on board vessel - - - }
Total No. of visits

Is the approved plan of main boiler forwarded herewith

" " " donkey " " "

Dates of Examination of principal parts—Cylinders *July 20* Slides *June 20* Covers *June 20* Pistons *June 20* Rods *July 20*
Connecting rods *July 20* Crank shaft *June 20* Thrust shaft *June 20* Tunnel shafts *June 20* Screw shaft *not drawn* Propeller *17.6.20*
Stern tube Steam pipes tested Engine and boiler seatings *8 July 20* Engines holding down bolts ✓
Completion of pumping arrangements *8 July 20* Boilers fixed *8 July 20* Engines tried under steam *8 July 20*
Completion of fitting sea connections ✓ Stern tube *undr. dock. 17.6.20* Screw shaft and propeller *undr. dock. 17.6.20*
Main boiler safety valves adjusted *8 July 20* Thickness of adjusting washers *1 3/8 - 5/8*
Material of Crank shaft *steel* Identification Mark on Do. Material of Thrust shaft *steel* Identification Mark on Do.
Material of Tunnel shafts *steel* Identification Marks on Do. Material of Screw shafts *steel* Identification Marks on Do.
Material of Steam Pipes *iron* Test pressure *600 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 *yes* If so, state name of vessel *hil clean vessel*

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

The machinery and Boilers were originally built under the supervision and to the requirements of the "British Corporation." The Boilers scantlings comply with the plans approved by Lloyd's Register of Shipping. 25.9.17

The vessel was placed in dry dock, the propeller outside fastenings, examined found efficient sea connections overhauled, sidge injection examined, (Tail shaft not drawn)

The cylinders, pistons, slide valves, crank, thrust & intermediate shaft, condenser, pump, opened out examined found, or put into good condition. The scantlings & sidges of Engines & Boilers checked & noted as far as practicable. Boilers examined found satisfactory.

The off Boilers removed. Two boilers fitted aft in way of fore boiler removed, sealings & fastenings made to suit. Together with the necessary ladders & gratings. Forced draught plant removed, one auxiliary feed donkey pump removed, wireless removed, Boilers tested under steam found satisfactory. The Safety Valves adjusted 205 lb. The Engines tried under steam (vessel at moorings) and found satisfactory.

In our opinion the vessel is now eligible for the notation of L.M.C. 7-20

The amount of Entry Fee ... £ : :
Special ... £ 10 : 10 :
Donkey Boiler Fee ... £ : :
Travelling Expenses (if any) £ : :
When applied for, 30 JUL 1920
When received, 27/8 1920

Leonard S. Shelleross
Engineer Surveyor to Lloyd's Register of Shipping.

TUE. NOV. 29 1921

Committee's Minute

FRI. AUG. 6 1920

Assigned

L.M.C. 7.20

CERTIFICATE WRITTEN.



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NEWCASTLE-ON-TYNE
Certificate (if required) to be sent to
The Surveyors are requested not to write on or below the space for Committee's Minute.