

REPORT ON MACHINERY.

Received at London Office

SAT. DEC. 13. 1919

Date of writing Report

19

When handed in at Local Office

12 DEC 1919

Port of Sunderland

No. in Survey held at Sunderland

Date, First Survey 23 Jan 1919

Last Survey 10-12-

1919

Reg. Book.

(Number of Visits)

5234

264 on the new steel S/S "BARRACOO"

Tons } Gross 5250
Net 3155

Master G. Owen

Built at Sunderland

By whom built R. Thompson & Sons Ltd (S/S No 310)

When built 1919

Engines made at Sunderland

By whom made North Eastern Marine Engineering Co Ltd (No 2365)

when made 1919

Boilers made at do.

By whom made African S.S. Co. do.

when made 1919

Registered Horse Power

Owners Elder Dempster & Co Ltd

Port belonging to Singapore

Nom. Horse Power as per Section 28 517

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 27"-44"-73" Length of Stroke 48" Revs. per minute 75"

Dia. of Screw shaft as per rule 15.39" 14.67" Material of J. steel
as fitted 1.32" 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 -

If two

liners are fitted, is the shaft lapped or protected between the liners -

Length of stern bush 5'-0 1/2"

Dia. of Tunnel shaft as per rule 13.32" 1.12"

Dia. of Crank shaft journals as per rule 14" 1.2 1/2"

Dia. of Crank pin 1-2 1/2" Size of Crank webs 1-10 1/2" x 9" Dia. of thrust shaft under collars 1-2 3/4"

Dia. of screw 17'-6" Pitch of Screw 16'-6"

No. of Blades 4 State whether moveable no Total surface 98.2 sq ft

No. of Feed pumps 2 Diameter of ditto 4" Stroke 2'-0" Can one be overhauled while the other is at work yes

No. of Bilge pumps 2 Diameter of ditto 4" Stroke 2'-0" Can one be overhauled while the other is at work yes

No. of Donkey Engines 4 Sizes of Pumps 1 @ 10 1/2" & 14" x 24" 3 @ 9 1/2" & 7 1/8" No. and size of Suctions connected to both Bilge and Donkey pumps

In Engine Room 4 @ 3 1/2"

In Holds, &c. No 1 hold - 2 @ 3 1/2". No 2 hold - 2 @ 3 1/2". brass bucket

- 2 @ 3 1/2". No 3 hold - 2 @ 3 1/2". No 4 hold - 1 @ 3 1/2". Tunnel well 1 @ 3"

No. of Bilge Injections 1 sizes 13" Connected to condenser, or to circulating pump 6 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 none

Are all connections with the sea direct on the skin of the ship yes Are they Valves or Cocks both

main below, all others

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 forward hold suction How are they protected under timber boards

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 top platform

BOILERS, &c.—(Letter for record S) Manufacturers of Steel John Spencer & Sons Ltd

Total Heating Surface of Boilers 7668 sq ft Is Forced Draft fitted yes No. and Description of Boilers three single ended marine.

Working Pressure 180 Tested by hydraulic pressure to 360 Date of test 18-7-19. 30-7-19. 1-8-19 No. of Certificate 3585. 3590. 3593

Can each boiler be worked separately yes Area of fire grate in each boiler 630 sq ft No. and Description of Safety Valves to

each boiler two direct spring Area of each valve 9.60" Pressure to which they are adjusted 185 Are they fitted with easing gear yes

Smallest distance between boilers or uptakes and bunkers or woodwork 1'-8" inside dia. of boilers 15'-6" Length 11'-8 1/2" 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 DBS, TR Diameter of rivet holes in long. seams 1 1/2" Pitch of rivets 9 1/8" Lap of plates or width of butt straps 1-8 1/8"

Per centages of strength of longitudinal joint rivets 85.5 Working pressure of shell by rules 182 Size of manhole in shell 16" x 12"

plate 86.4 No. and Description of Furnaces in each boiler 3 Deighton Material steel Outside diameter 4-2 1/10"

Length of plain part top 19" bottom 32" Thickness of plates crown 19" Description of longitudinal joint welded No. of strengthening rings -

Working pressure of furnace by the rules 188 Combustion chamber plates: Material steel Thickness: Sides 25/32" Back 25/32" Top 25/32" Bottom 25/32"

Pitch of stays to ditto: Sides 10 3/8" x 10 3/8" Back 11 1/8" x 9 1/2" Top 10 3/8" x 10 3/8" 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 112.60" Working pressure by rules 187 End plates in steam space:

Material steel Thickness 1 1/2" Pitch of stays 21" x 21 1/4" How are stays secured DN&W Working pressure by rules 187 Material of stays steel

Area at smallest part 7.980" Area supported by each stay 4560" Working pressure by rules 182 Material of Front plates at bottom steel

Thickness 3 1/2" Material of Lower back plate steel Thickness 7/8" Greatest pitch of stays 13 3/4" x 9 1/2" Working pressure of plate by rules 190

Diameter of tubes 2 3/4" Pitch of tubes 4" x 3 1/8" Material of tube plates steel Thickness: Front 3/32" Back 3/4" Mean pitch of stays 9 13/16"

Pitch across wide water spaces 1-15/8" Working pressures by rules 181 Girders to Chamber tops: Material steel Depth and

thickness of girder at centre 2 @ 9 1/2" x 7" Length as per rule 35 1/2" Distance apart 10 3/8" Number and pitch of stays in each 2 @ 10 3/8"

Working pressure by rules 180 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

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? *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 feet and bilge pump valves, one propeller iron and bolts of various sizes, one fan engine complete.*

The foregoing is a correct description,

FOR THE NORTH EASTERN MARINE ENGINEERING CO. LTD

Geo D Weir

Manufacturer.

| | | | |
|--------------------------------|-------------------------------------|---|---|
| Dates of Survey while building | During progress of work in shops -- | 1919 Jan 23 24 Feb 3 12 Mar 3 10 16 20 April 14 May 5 8 15 20 22 24 26 Jun 4 19 20 Jul 1 4 7 12 | |
| | | During erection on board vessel -- | 16 22 Aug 1 7 12 15 21 Sep 4 8 15 22 24 29 30 Oct 2 3 17 20 21 Dec 5 8 10 |
| | | Total No. of visits | <i>(48)</i> |

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

" " " donkey " " " "

Dates of Examination of principal parts—Cylinders *26-5-19* Slides *16-6-19* Covers *19-6-19* Pistons *27-5-19* Rods *20-5-19*
 Connecting rods *1-4-19* Crank shaft *4-6-19* Thrust shaft *16-7-19* Tunnel shafts *7-8-19* Screw shaft *29-8-19* Propeller *26-8-19*
 Stern tube *4-9-19* Steam pipes tested *23-9-19* Engine and boiler seatings *8-9-19* Engines holding down bolts *29-9-19*
 Completion of pumping arrangements *17-10-19* Boilers fixed *29-9-19* Engines tried under steam *3-10-19*
 Completion of fitting sea connections *8-9-19* Stern tube *15-9-19* Screw shaft and propeller *15-9-19*
 Main boiler safety valves adjusted *3-10-19* Thickness of adjusting washers *Int. boiler bolt 7/16" Lat. boiler 5/16" St. boiler 5/16" 5/8"*

Material of Crank shaft *Steel* Identification Mark on Do. *4176N.WC* Material of Thrust shaft *Steel* Identification Mark on Do. *4176N.WC*
 Material of Tunnel shafts *Steel* Identification Marks on Do. *4176N.WC* Material of Screw shafts *Steel* Identification Marks on Do. *4176N.WC*
 Material of Steam Pipes *Lapwelded work iron* Test pressure *540 lbs per sq. in.*

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 *Standard type "B"*

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 my opinion for classification and the record + L.M.C. 12, 19

SUNDERLAND

It is submitted that this vessel is eligible for THE RECORD. *+ L.M.C. 12.19. F.D.*

| | | |
|--------------------------------|-----------|-------------------|
| The amount of Entry Fee ... | £ 3 : - | When applied for, |
| Special ... | £ 45 : 17 | <i>11.12.1919</i> |
| Donkey Boiler Fee ... | £ : | When received, |
| Travelling Expenses (if any) £ | : | <i>3.1.1920</i> |

S. C. Davis
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute *FRI. 1920. 1919*
Assigned *+ L.M.C. 12.19 F.D.*

