

REPORT ON MACHINERY.

No. 38317

Received at London Office WED. 20 NOV. 1918

Date of writing Report

When handed in at Local Office

10

Port of *Glasgow*

o. in Survey held at
Reg. Book.

Date, First Survey *12/7/18*

Last Survey *3rd Dec* 1918

(Number of Visits *106*)

Tons
Gross
Net

on the

Glasgow
SS "WAR ARYAN"

Master

Built at *Glasgow*

By whom built *Harland & Wolff Ltd No 528*

When built *1918*

Engines made at

Glasgow

By whom made

Harland & Wolff Ltd No 531

when made *1918*

Boilers made at

do.

By whom made

do W Henderson No 539

when made *1918*

Registered Horse Power

Owners

Shipping Controller
(Anglo American Oil Co Ltd)

Port belonging to *London*

nom. Horse Power as per Section 28

517

Is Refrigerating Machinery fitted for cargo purposes *no*

Is Electric Light fitted *yes*

GINES, &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 *77*

Dia. of Screw shaft

as fitted 15 1/2"

Material of screw shaft *Steel*

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

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

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

Length of stern bush *5.0"*

Dia. of Tunnel shaft

as fitted 13 1/2"

Dia. of Crank shaft journals

as fitted 14 1/2"

Dia. of Crank pin

14 1/2"

Size of Crank webs

28x9

Dia. of screw

17-6

Pitch of Screw

16-6

No. of Blades *4*

State whether moveable

no

Total surface *102 sq ft*

No. of Feed pumps

2

Diameter of ditto

4"

Stroke *24"*

Can one be overhauled while the other is at work *yes*

No. of Bilge pumps

2

Diameter of ditto

4"

Stroke *24"*

Can one be overhauled while the other is at work *yes*

No. of Donkey Engines

3

Sizes of Pumps

1 1/2" x 7" x 18", 1 1/2" x 7" x 18", 1 1/2" x 7" x 18"

Engine Room

Two 3 1/2", one 2 1/2", Stockholm Two 3 1/2"

In Holds, &c. *Two 3", Cross bunkers Two 3 1/2"*

2ft Hold

Two 3"

Tunnel well one 3"

Tunnel fore end one 3"

No. of Bilge Injections

1

sizes

8"

Connected to condenser, or to circulating pump

yes

Is a separate Donkey Suction fitted in Engine room & size *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 *below*

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

Bilge oil Suctions

How are they protected

wood & iron casings

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

Notes of examination of completion of fitting of Sea Connections

23.9.18

of Stern Tube

23.9.18

Screw shaft and Propeller *23.9.18*

the Screw Shaft Tunnel watertight

yes

Is it fitted with a watertight door

no

worked from *Entry by trunkway*

MILERS, &c.—(Letter for record

S)

Manufacturers of Steel

See separate Rpt

total Heating Surface of Boilers

7668

Is Forced Draft fitted

yes

No. and Description of Boilers

3 S.E.

3SB

Working Pressure

180

Tested by hydraulic pressure to

360

Date of test

29.5.18

No. of Certificate *14439*

Can each boiler be worked separately

yes

Area of fire grate in each boiler

63.3 sq ft

No. and Description of Safety Valves to

each boiler

1 Pair direct Spring

Area of each valve

9.625

Pressure to which they are adjusted

185

Are they fitted with easing gear *yes*

Greatest distance between boilers or uptakes and bunkers or woodwork

1-9"

Mean dia. of boilers

1-9"

Length

Material of shell plates

Thickness

Range of tensile strength

Are the shell plates welded or flanged

yes

Descrip. of riveting: cir. seams

yes

g. seams

Diameter of rivet holes in long. seams

Pitch of rivets

Lap of plates or width of butt straps

Size of manhole in shell

Material

Outside diameter

Percentages of strength of longitudinal joint

rivets

Working pressure of shell by rules

plate

No. and Description of Furnaces in each boiler

Material

Outside diameter

No. of strengthening rings

Length of plain part

top

Thickness of plates

bottom

Description of longitudinal joint

bottom

Working pressure of furnace by the rules

Combustion chamber plates: Material

Thickness: Sides

Back

Top

Bottom

Working pressure of stays to ditto: Sides

Back

Top

If stays are fitted with nuts or riveted heads

Working pressure by rules

End plates in steam space:

Material of stays

Diameter at smallest part

Area supported by each stay

Material

Thickness

Pitch of stays

How are stays secured

Working pressure by rules

Material of stays

Diameter at smallest part

Area supported by each stay

Working pressure by rules

Thickness

Material of Lower back plate

Thickness

Greatest pitch of stays

Working pressure of plate by rules

Material of tube plates

Thickness: Front

Back

Mean pitch of stays

Pitch of tubes

Material of tube plates

Thickness: Front

Back

Mean pitch of stays

Girders to Chamber tops: Material

Depth and

Number and pitch of stays in each

Can the superheater be shut off and the boiler worked

Working pressure by rules

Superheater or Steam chest; how connected to boiler

Material

Description of longitudinal joint

Diam. of rivet

Material of flue plates

Thickness

Material of flue plates

Thickness

Pitch of rivets

Working pressure of shell by rules

Diameter of flue

Material of flue plates

Thickness

Material of flue plates

Thickness

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

yes

Working pressure of end plates

Area of safety valves to superheater

Are they fitted with easing gear

yes

Working pressure of end plates

Area of safety valves to superheater

Are they fitted with easing gear

yes

Working pressure of end plates

Area of safety valves to superheater

VERTICAL DONKEY BOILER— Manufacturers of Steel

No. *none* Description *Vertical Donkey Boiler*

Made at *Warrington* By whom made *Warrington* When made *1918* Where fixed *Warrington*

Working pressure tested by hydraulic pressure to *150 lbs* Date of test *12/11/18* No. of Certificate *11.18* Fire grate area *150* Description of *Boiler*

Valves *2* No. of Safety Valves *2* Area of each *150* Pressure to which they are adjusted *150* Date of adjustment *12/11/18*

If fitted with casing gear *Yes* If steam from main boilers can enter the donkey boiler *No* Dia. of donkey boiler *150* Length *150*

Material of shell plates *Steel* Thickness *1/2"* Range of tensile strength *35* Descrip. of riveting long. seams *150*

Dia. of rivet holes *1/2"* Whether punched or drilled *Yes* Pitch of rivets *150* Lap of plating *150* Per centage of strength of joint *150* Rivets *150* Plates *150*

Working pressure of shell by rules *150* Thickness of shell crown plates *150* Radius of do. *150* No. of stays to do. *150* Dia. of stays *150*

Diameter of furnace Top *150* Bottom *150* Length of furnace *150* Thickness of furnace plates *150* Description of joint *150*

Working pressure of furnace by rules *150* Thickness of furnace crown plates *150* Radius of do. *150* Stayed by *150*

Diameter of uptake *150* Thickness of uptake plates *150* Thickness of water tubes *150* Dates of survey *150*

SPARE GEAR. State the articles supplied:— *2 top end & 2 bottom end & 2 main bearings & 6 coupling bolts & nuts, set of fuel and water pump valves, assortment of bolts nuts, and other spares as required by specification.*

The foregoing is a correct description,
J. E. Rebbeck

Manufacturer.

GENERAL MANAGER
DIESEL ENGINE WORKS

Dates of Survey while building *During progress of work in shops - 1917 July 12-26 Aug 2-8-9-10-29-26-30-31 Sept 8-12-18-21 Oct 11-17-26-31 Nov 3-12-13-14-20-23-27 Dec 5-8-11-13-18-21-24 of 1918 Jan 8-10-16-17-22-29 Feb 5-8-13-20-25-26 Mar 7-11-13-18-19-21-22-26-28 Apr 6-5-11-15-17-23-30 May 3-16-21-22-24-28 June 3-5-12-19-24-27 July 1-3-5-8-10-11-24-29-30-31 Aug 2-9-22-26-27-28 Sept 9-13-17-19-24-26 Oct 3-10-15-21-25-30 Nov 5-10-15-21-25-30*

Total No. of visits *105*

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

Dates of Examination of principal parts—Cylinders *8.5.18* Slides *23.5.18* Covers *23.5.18* Pistons *23.5.18* Rods *3.6.18* Connecting rods *3.6.18* Crank shaft *12.6.18* Thrust shaft *3.7.18* Tunnel shafts *3.7.18* Screw shaft *30.7.18* Propeller *30.7.18* Stern tube *30.7.18* Steam pipes tested *6.9.17* Engine and boiler seatings *13.9.18* Engines holding down bolts *15.10.18* Completion of pumping arrangements *5.11.18* Boilers fixed *15.10.18* Engines tried under steam *25.10.18* Main boiler safety valves adjusted *25.10.18* Thickness of adjusting washers *Sta B. Sta C. Pt 3/8" Sta B. Sta C. Pt 3/8" Pt B. Sta 3/8" Pt C. Sta 3/8"* Material of Crank shaft *Steel* Identification Mark on Do. *531 J.E.* Material of Thrust shaft *Steel* Identification Mark on Do. *1629 3897-3904-3823-2828-3822-3892 J.P.* Material of Tunnel shafts *Steel* Identification Marks on Do. *3897-3904-3823-2828-3822-3892 J.P.* Material of Screw shafts *Steel* Identification Marks on Do. *3391* Material of Steam Pipes *Iron* Test pressure *540 lb*

General Remarks (State quality of workmanship, opinions as to class, &c. *The machinery of this vessel has been constructed under special survey in accordance with the Rules and approved Plans, and has been seen working under steam satisfactorily.*

The machinery is eligible in my opinion to be classed ALMC1

It is submitted that
this vessel is eligible for
THE RECORD. + LMC 11.18. F.D.

The amount of Entry Fee .. £ : : When applied for, *13/11/18*

Special .. £ 146 .. " : : When received, *14/11/18*

Donkey Boiler Fee .. £ : : *14/11/18*

Travelling Expenses (if any) £ : : *14/11/18*

Committee's Minute *GLASGOW* 19 NOV 1918

Assigned *L.M.C. 11.18*

MACHINERY CERTIFICATE
WRITTEN 20/11/18

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



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Foundation