

# REPORT ON MACHINERY.

No. 39198.

Received at London Office

Writing Report

19

When handed in at Local Office

6.10.19. Port of Glasgow

Survey held at  
Book on the

Glasgow  
SS. "WAR GAEKWAR"

Date, First Survey 6.11.19 Last Survey 26th Sept 1919

(Number of Visits 38)

Tons Gross 5541 Net 3413

Built at Glasgow By whom built Lethgow & Co (No 719) When built 1919

Machinery made at Glasgow By whom made R Rowan & Co (No 710) when made 1919

Machinery made at Glasgow By whom made doo (No 710) when made 1919

Indicated Horse Power Owners The Anglo Saxon Petroleum Co Port belonging to

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

of Cylinders 27-44-73 Length of Stroke 48 Revs. per minute 81 Dia. of Screw shaft as per rule 14.7 as fitted 15.2 Material of screw shafts Steel

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

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

on the bearings in the stern tube, is the space charged with a plastic material insoluble in water and non-corrosive Yes If two

are fitted, is the shaft lapped or protected between the liners — Length of stern bush 5-0.2

Dia. of Tunnel shaft as per rule 13.3 as fitted 13.2 Dia. of Crank shaft journals as per rule 14 as fitted 14.2 Dia. of Crank pin 14.2 Size of Crank webs 9x28 Dia. of thrust shaft under

14.2 Dia. of screw 17-6 Pitch of Screw 16-6 No. of Blades 4 State whether moveable No Total surface 98.2

of Feed pumps 2 Diameter of ditto 4 Stroke 24 Can one be overhauled while the other is at work Yes

of Bilge pumps 2 Diameter of ditto 4 Stroke 24 Can one be overhauled while the other is at work Yes

of Donkey Engines 3 Sizes of Pumps Sallant 10.2 x 14 x 24 No. and size of Suctions connected to both Bilge and Donkey pumps

Engine Room (3) 3.2 3.2 3.2 In Holds, &c. Fore hold (2) 3.2 after hold (2) 3.2

Bunker (1) 3.2 Tunnel well (1) 2.2

of Bilge Injections ( sizes 12 Connected to condenser, or to circulating pump Pump Is a separate Donkey Suction fitted in Engine room & size Yes 3.2

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

all connections with the sea direct on the skin of the ship Yes Are they Valves or Cocks Both

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

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

all pipes are carried through the bunkers 7 suction How are they protected Iron casings

all Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times Yes

the Bilge Suction Pipes, Cocks, and Valves arranged so as to prevent any communication between the sea and the bilges Yes

of examination of completion of fitting of Sea Connections Yes Stern Tube Yes Screw shaft and Propeller Yes

of Screw Shaft Tunnel watertight Yes Is it fitted with a watertight door No worked from Trunkway escape fitted

MANUFACTURERS, &c.—(Letter for record S) Manufacturers of Steel Steel 6 of Scottsdale, & Colville's Sons Ltd

of Heating Surface of Boilers 7668 Is Forced Draft fitted Yes No. and Description of Boilers 3 Single ended

Working Pressure 185 Tested by hydraulic pressure to 360 Date of test 22.5.19 No. of Certificate 14742

each boiler be worked separately Yes Area of fire grate in each boiler 63.33 No. and Description of Safety Valves to

boiler 2 Spring loaded Area of each valve 9.6 Pressure to which they are adjusted 185 Are they fitted with casing gear Yes

smallest distance between boilers or uptakes and bunkers or woodwork 1-6 Mean dia. of boilers 15-6 Length 11-6 Material of shell plates Steel

thickness 1/4 Range of tensile strength 28.6-32.0 Are the shell plates welded or flanged No Descrip. of riveting: cir. seams do Lap

seams TRDBS Diameter of rivet holes in long. seams 1.5 Pitch of rivets 9/8 Lap of plates or width of butt straps 19.2

percentages of strength of longitudinal joint rivets 88.3 plate 85.6 Working pressure of shell by rules 183 Size of manhole in shell 16x12

of compensating ring and flanged No. and Description of Furnaces in each boiler 3 Conjugate Material Steel Outside diameter 42.76

length of plain part top 1.9 bottom 3.2 Description of longitudinal joint Weld No. of strengthening rings

Working pressure of furnace by the rules 188 Combustion chamber plates: Material Steel Thickness: Sides 3/32 Back 1/16 Top 2/32 Bottom 3/32

of stays to ditto: Sides 10.5 x 9.4 Back 10.4 x 8.4 Top 10.5 x 9.4 If stays are fitted with nuts or riveted heads Nuts Working pressure by rules 180

Material of stays Steel Diameter at smallest part 2.395 Area supported by each stay 98.0 Working pressure by rules 219 End plates in steam space:

Material Steel Thickness 1/32 Pitch of stays 21.2 x 20.2 How are stays secured Nuts Working pressure by rules 181 Material of stays Steel

Material Steel Thickness 8.29 Area supported by each stay 44.5 Working pressure by rules 198 Material of Front plates at bottom Steel

Thickness 7/8 Material of Lower back plate Steel Thickness 27/32 Greatest pitch of stays 13.5 Working pressure of plate by rules 187

Diameter of tubes 2.3/4 Pitch of tubes 4 x 3.78 Material of tube plates Steel Thickness: Front 3/32 Back 3/4 Mean pitch of stays 9.78

of girder across wide water spaces 13.5 Working pressures by rules 181 Girders to Chamber tops: Material Steel Depth and

Thickness of girder at centre 10 x 7.5 (2) Length as per rule 35.9 Distance apart 10.5 Number and pitch of stays in each (3) 9.4

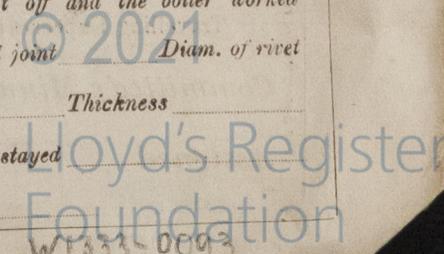
Working pressure by rules 188 Superheater or Steam chest; how connected to boiler None Can the superheater be shut off and the boiler worked

separately Diameter Length Thickness of shell plates Material Description of longitudinal joint Diam. of rivet

Thickness of shell plates Material of flue plates Thickness

strengthened 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 casing gear



**VERTICAL DONKEY BOILER—** Manufacturers of Steel

No. \_\_\_\_\_ Description **None.**

Made at \_\_\_\_\_ By whom made \_\_\_\_\_ When made \_\_\_\_\_ Where fixed \_\_\_\_\_

Working pressure tested by hydraulic pressure to \_\_\_\_\_ Date of test \_\_\_\_\_ No. of Certificate \_\_\_\_\_ Fire grate area \_\_\_\_\_ Description of Safety Valves \_\_\_\_\_

Valves \_\_\_\_\_ No. of Safety Valves \_\_\_\_\_ Area of each \_\_\_\_\_ Pressure to which they are adjusted \_\_\_\_\_ Date of adjustment \_\_\_\_\_

If fitted with easing gear \_\_\_\_\_ If steam from main boilers can enter the donkey boiler \_\_\_\_\_ Dia. of donkey boiler \_\_\_\_\_ Length \_\_\_\_\_

Material of shell plates \_\_\_\_\_ Thickness \_\_\_\_\_ Range of tensile strength \_\_\_\_\_ Descrip. of riveting long. seams \_\_\_\_\_

Dia. of rivet holes \_\_\_\_\_ Whether punched or drilled \_\_\_\_\_ Pitch of rivets \_\_\_\_\_ Lap of plating \_\_\_\_\_ Per centage of strength of joint \_\_\_\_\_ Rivets \_\_\_\_\_ Plates \_\_\_\_\_

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

Diameter of furnace Top \_\_\_\_\_ Bottom \_\_\_\_\_ Length of furnace \_\_\_\_\_ Thickness of furnace plates \_\_\_\_\_ Description of joint \_\_\_\_\_

Working pressure of furnace by rules \_\_\_\_\_ Thickness of furnace crown plates \_\_\_\_\_ Radius of do. \_\_\_\_\_ Stayed by \_\_\_\_\_

Diameter of uptake \_\_\_\_\_ Thickness of uptake plates \_\_\_\_\_ Thickness of water tubes \_\_\_\_\_ Dates of survey \_\_\_\_\_

**SPARE GEAR.** State the articles supplied:— 2 top end bolts and nuts 2 bottom end bolts and nuts 6 coupling bolts and nuts 2 main bearing bolts and nuts set of feed and belt pump valves assorted iron bolts and nuts and other spares as required by specification

The foregoing is a correct description,

David Rowan & Co. Manufacturer.

Dates of Survey while building	During progress of work in shops	1917. Nov. 4. 9.	1918. Oct. 4. 8. 28.	Dec. 11. 13. 19.	1919. Jan. 8. 22.	Feb. 6. 11.	Mar. 10. 11.
	During erection on board vessel	Apr. 1. 16.	May 2. 7. 16. 19. 22.	June 3. 16. 18. 20. 28.	July 1. 8. 14.	Aug. 11. 25. 29.	Sept. 1. 12. 22. 28.
	Total No. of visits	38.					

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

" " " donkey " " " "

**Dates of Examination of principal parts**—Cylinders 6.2.19 Slides 11.2.19 Covers 11.3.19 Pistons 16.4.19 Rods 16.4.19

Connecting rods 6.2.19 Crank shaft 16.3.19 Thrust shaft 8.7.19 Tunnel shafts 11.8.19 Screw shaft 23.6.19 Propeller 23.6.19

Stern tube 16.6.19 Steam pipes tested 13.12.18 Engine and boiler seatings 12.9.19 Engines holding down bolts 12.9.19

Completion of pumping arrangements 23.9.19 Boilers fixed 22.9.19 Engines tried under steam 23.9.19 26.9.19

Main boiler safety valves adjusted 23.9.19 Thickness of adjusting washers Sta S  $\frac{7}{16}$  Centre Sta  $\frac{3}{8}$  Port S  $\frac{7}{16}$

Material of Crank shaft **Steel** Identification Mark on Do. 710TM Material of Thrust shaft **Steel** Identification Mark on Do. 1218

Material of Tunnel shafts **Iron** Identification Marks on Do. \* Material of Screw shafts **Steel** Identification Marks on Do. 75D

Material of Steam Pipes **Iron** Test pressure 540 lb ✓

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

\* (4) TM 11.8.19 (2) TM 11.8.19

The machinery of this vessel has been constructed under special survey in accordance with the Rules and approved plans and has been seen working satisfactorily under steam. Materials and workmanship are good.

The machinery is eligible in our opinion to be classed + LMC 9.19. and to have record of fitted for oil fuel 9.19 F.P. above 150° F

It is submitted that this vessel is eligible for **THE RECORD.** + LMC. 9.19 FD Fitted for Oil Fuel. 9.19 F.P. above 150° F

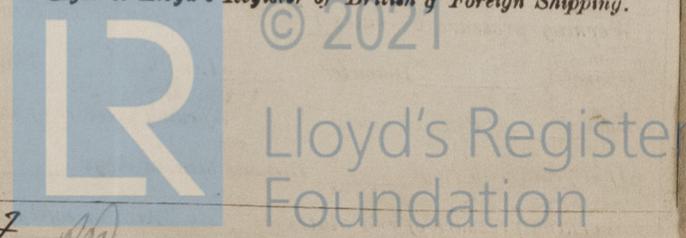
Roll 10/10/19

The amount of Entry Fee .. £	} 146 : 11 : 0	When applied for,
Special .. .. £		7.10.19
Donkey Boiler Fee .. .. £		When received,
Travelling Expenses (if any) £		9.10.19

as Bartholomew & G. L. Shaw. Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

Committee's Minute **GLASGOW 7-OCT-1919**

Assigned + L.M.C. 9.19 FD. Fitted for oil fuel 9.19 F.P. above 150° F



Glasgow

6.10.19

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