

# REPORT ON MACHINERY.

No. 34091

Received at London Office

2 AUG. 1917

Writing Report

19

When handed in at Local Office

10

Port of Glasgow

Survey held at *Renfrew*

Date, First Survey *14<sup>th</sup> Nov. 1916* Last Survey *Aug 9<sup>th</sup> 1917*

on the *Stel & S Larchol* (Royal Fleet Auxiliary - Oil in bulk)

Tons *3000*

Built at *Renfrew*

By whom built *Lobnitz & Co Ltd*

When built *1914*

Engines made at *Renfrew*

By whom made *do*

when made *1914*

Engines made at *do*

By whom made *do*

when made *1914*

Indicated Horse Power

Owners *British Admiralty*

Port belonging to *-*

Horse Power as per Section 28 *138*

Is Refrigerating Machinery fitted for cargo purposes *no*

Is Electric Light fitted *yes*

Types, &c.—Description of Engines *Triple expansion* No. of Cylinders *3* No. of Cranks *3*

of Cylinders *15" - 25" - 40"* Length of Stroke *30"* Revs. per minute *106* Dia. of Screw shaft *8.9* Material of *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 *close fit* If two

are fitted, is the shaft lapped or protected between the liners *-* Length of stern bush *36"*

of Tunnel shaft *4.44* Dia. of Crank shaft journals *8.12* Dia. of Crank pin *8.5* Size of Crank webs *17x6* Dia. of thrust shaft under

pins *8.5* Dia. of screw *11.0* Pitch of Screw *11"* No. of Blades *4* State whether moveable *no* Total surface *38 sq ft*

of Feed pumps *2 Weirs* Diameter of ditto *5.4* Stroke *15"* Can one be overhauled while the other is at work *yes*

of Bilge pumps *2* Diameter of ditto *4.5* Stroke *4.5* Can one be overhauled while the other is at work *yes*

of Donkey Engines *4* Sizes of Pumps *2 Cargo oil 10-14x18* No. and size of Suctions connected to both Bilge and Donkey pumps

Engine Room *2 of 3"* Strokehold *3 of 2.5"* In-Holds, &c. Hold *1 of 4"* Forward pump room *2 of 2.5"*

of Bilge Injections *1* sizes *5"* Connected to condenser, or to circulating pump *yes* Is a separate Donkey Suction fitted in Engine room & size *yes 4"*

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 *above*

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 *29.5.17* of Stern Tube *11.5.17* Screw shaft and Propeller *29.5.17*

the Screw Shaft Tunnel watertight *none* Is it fitted with a watertight door *-* worked from *-*

MANUFACTURERS, &c.—(Letter for record *S*) Manufacturers of Steel *A Colville & Sons, Stel Co of Scotland*

Total Heating Surface of Boilers *2200 sq ft* Is Forced Draft fitted *yes* No. and Description of Boilers *Two, single ended*

Working Pressure *180 lbs* Tested by hydraulic pressure to *360 lbs* Date of test *23.3.17* No. of Certificate *13437*

can each boiler be worked separately *yes* Area of fire grate in each boiler *-* No. and Description of Safety Valves to

each boiler *2 direct spring* Area of each valve *4.91* 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 *9.0"* Mean dia. of boilers *10.3"* Length *11.0"* Material of shell plates *steel*

Thickness *31/32* Range of tensile strength *28/32 tons* Are the shell plates welded or flanged *no* Descrip. of riveting: cir. seams *DR lap*

mg. seams *DBS, TR* Diameter of rivet holes in long. seams *1 7/8* Pitch of rivets *6 7/8* Lap of plates or width of butt straps *15 1/2*

Percentages of strength of longitudinal joint *99.9* Working pressure of shell by rules *204 lbs* Size of manhole in shell *18 1/2 x 14 1/2*

Size of compensating ring *3 1/2 x 2 1/2 x 1"* No. and Description of Furnaces in each boiler *2 Morrison* Material *steel* Outside diameter *38 3/4*

Length of plain part *1 1/2* Thickness of plates *1 1/2* Description of longitudinal joint *weld* No. of strengthening rings *-*

Working pressure of furnace by the rules *196* Combustion chamber plates: Material *steel* Thickness: Sides *7/8* Back *7/8* Top *7/8* Bottom *7/8*

Pitch of stays to ditto: Sides *7 1/2 x 8* Back *7 1/2 x 8* Top *7 1/4 x 8* If stays are fitted with nuts or riveted heads *nuts* Working pressure by rules *182*

Material of stays *steel* Diameter at smallest part *1.41* Area supported by each stay *60* Working pressure by rules *188* End plates in steam space:

Material *steel* Thickness *29/32* Pitch of stays *14 1/2 x 14 1/2* How are stays secured *DNFW* Working pressure by rules *185* Material of stays *steel*

Diameter at smallest part *4.77* Area supported by each stay *210* Working pressure by rules *236* Material of Front plates at bottom *steel*

Thickness *29/32* Material of Lower back plate *steel* Thickness *29/32* Greatest pitch of stays *15* Working pressure of plate by rules *180*

Diameter of tubes *3"* Pitch of tubes *4 x 4* Material of tube plates *steel* Thickness: Front *29/32* Back *13/16* Mean pitch of stays *10"*

Pitch across wide water spaces *13"* Working pressures by rules *180* Girders to Chamber tops: Material *steel* Depth and

thickness of girder at centre *2 plates 9x1 1/2* Length as per rule *32 1/4* Distance apart *7 1/4* Number and pitch of stays in each *3 of 8"*

Working pressure by rules *209* 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

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 *-*



**VERTICAL DONKEY BOILER—** Manufacturers of Steel

No.	Description	When made	Where fixed
Made at	By whom made	No. of Certificate	Fire grate area
Working pressure	tested by hydraulic pressure to	Date of test	Description of Safety
Valves	No. of Safety Valves	Area of each	Pressure to which they are adjusted
If fitted with casing gear	If steam from main boilers can enter the donkey boiler	Dia. of donkey boiler	Date of adjustment
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
Working pressure of shell by rules	Thickness of shell crown plates	Radius of do.	No. of stays to do.
Diameter of furnace Top	Bottom	Length of furnace	Thickness of furnace plates
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, 2 bottom end, 4 main bearing and set of coupling bolts nuts. Set of feed bilge pump valves. Assorted iron, bolts nuts and other spares as per Admiralty specification.

The foregoing is a correct description,  
**FOR LOBNITZ & Co. LIMITED,**  
 Manufacturer.

Dates of Survey while building: During progress of work in shops -- 1914. Jan. 17, 24. Dec. 4, 11, 26. 1917. Jan. 9, 12, 15, 16, 22, 29, 31. Feb. 5, 13, 19, 26. Mar. 1, 8, 12, 20. During erection on board vessel -- 24. Apr. 3, 4, 10, 14, 23, 26. May. 1, 3, 8, 14, 29, 31. June. 12, 20. July. 2, 5, 9, 24, 30. Aug. 2, 6, 8, 9. Total No. of visits 45

Dates of Examination of principal parts—Cylinders 12. 6. 17. Slides 26. 4. 17. Covers 12. 6. 17. Pistons 26. 4. 17. Rods 26. 4. 17. Connecting rods 23. 4. 17. Crank shaft 4. 4. 17. Thrust shaft 17. 4. 17. Tunnel shafts — Screw shaft 8. 5. 17. Propeller 8. 5. 17. Stern tube 8. 5. 17. Steam pipes tested 5. 7. 17. Engine and boiler seatings 29. 5. 17. Engines holding down bolts 2. 7. 17. Completion of pumping arrangements 8. 8. 17. Boilers fixed 2. 7. 17. Engines tried under steam 9. 8. 17. Main boiler safety valves adjusted 6. 8. 17. Thickness of adjusting washers PBPV  $\frac{7}{16}$  SV  $\frac{1}{2}$  SBPV  $\frac{1}{2}$  SV  $\frac{7}{16}$ . Material of Crank shaft steel Identification Mark on Do. 818 AC. Material of Thrust shaft steel Identification Mark on Do. 818 AC. Material of Tunnel shafts — Identification Marks on Do. — Material of Screw shafts steel Identification Marks on Do. 818 AC. Material of Steam Pipes steel Test pressure 540 lbs.

**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 Admiralty requirements, and has been seen working satisfactorily under steam. The vessel is intended for carrying oil in bulk and is fitted for burning oil fuel. (Howden Wallsend system) Materials & workmanship are good

This machinery is eligible in my opinion to be classed +LMC 8.17. Fitted for oil fuel F.P. above 150°F. Electric light.

It is submitted that this vessel is eligible for THE RECORD. +LMC 8.17. F.D.

Fitted for oil fuel 8.17. F.P. above 150°F.

The amount of Entry Fee £ 65. :  
 Special .. £ :  
 Donkey Boiler Fee .. £ :  
 Travelling Expenses (if any) £ :

When applied for.

When received.

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

Committee's Minute **GLASGOW** 21 AUG. 1917

Assigned + L.M.C. 8.17

Fitted for oil fuel - F.P. above 150°F

Rpt. 13.

**REPORT**

Port of Glasgow

No. in Reg. Book on the Iron-on R

Owners British

Yard No. 818 Elec

**DESCRIPTION OF DYNAMO**

One Compound

Capacity of Dynamo

Where is Dynamo fixed

Position of Main Switch Board

Positions of auxiliary switches

Shore terminal

If fuses are fitted on main circuits

If vessel is wired on the deck

Are the fuses of non-oxidizing material

Are all fuses fitted in easily accessible positions

Are all switches and fuses permanent instruments

Total number of lights provided

A Navigation

B Crew - Proj., lanterns

C Eng. & Blr. Rms. Mot.

D Aft Cabins

E

1 Mast head light

2 Side light

4 Deck lights

If arc lights, what protection

Where are the switches

**DESCRIPTION OF CABLES**

Main cable carrying 9"

Branch cables carrying 5"

Branch cables carrying 1"

Leads to lamps carrying 1/2"

Cargo light cables carrying 1/2"

**DESCRIPTION OF INSULATION**

Pure rubber

How are the cables led

Are all the joints of cables

positions, none being

are there any joints in

How are the cables led

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GLASGOW

Certificate (if required) to be sent to the Registrar of Shipping in Glasgow.

MACHINERY CERTIFICATE  
 NUMBER 22-8-17