

REPORT ON MACHINERY.

No. 80455

Date of writing Report **19 DEC 1917** When handed in at Local Office **19 DEC 1917** Received at London Office **19 DEC 1917**
 No. in Survey held at **Newbury** Date, First Survey **Aug 23rd** Last Survey **Dec 6th 1917**
 Reg. Book. on the **Empire 902064** S.S. **'Tiradail'** (Number of Visits **5**)
 Master **Budbrook** Built at **C.H. Walker** By whom built **Plenty & Son Ltd**
 Engines made at **Newbury** By whom made **Riley Bros.** when made **1917**
 Boilers made at **Stockton** By whom made **blues & Co.** when made **1917**
 Registered Horse Power **79** Owners **blues & Co.** Port belonging to **Swansea**
 Nom. Horse Power as per Section 28 **79** Is Refrigerating Machinery fitted for cargo purposes **no** Is Electric Light fitted **no**

ENGINES, &c.—Description of Engines **Triple, surface condensing** No. of Cylinders **3** No. of Cranks **3**
 Dia. of Cylinders **18"-23"-34"** Length of Stroke **22 1/2"** Revs. per minute **no** Dia. of Screw shaft **7 3/8"** Material of screw shaft **Steel**
 Is the screw shaft fitted with a continuous liner the whole length of the stern tube **no** Is the after end of the liner made water tight
 in the propeller boss **✓** 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 **2'-3"**
 Dia. of Tunnel shaft **6.41** as per rule **6.442"** Dia. of Crank shaft journals **6.73** as per rule **6.76"** Dia. of Crank pin **6 3/4"** Size of Crank webs **12 1/4" x 4 1/2"** Dia. of thrust shaft under
 collars **6 3/4"** Dia. of screw **8'-3"** Pitch of Screw **10'-0"** No. of Blades **4** State whether moveable **no** Total surface **26 sq ft**
 No. of Feed pumps **one** Diameter of ditto **3"** Stroke **10"** Can one be overhauled while the other is at work **✓**
 No. of Bilge pumps **one** Diameter of ditto **3"** Stroke **10"** Can one be overhauled while the other is at work **✓**
 No. of Donkey Engines **two** Sizes of Pumps **2 1/4"** No. and size of Suctions connected to both Bilge and Donkey pumps
 In Engine Room **one, 2 1/4"** In Holds, &c. **two, 2"**

No. of Bilge Injections **one** sizes **3"** Connected to condenser or to circulating pump **yes** Is a separate Donkey Suction fitted in Engine room & size **yes, 2 1/4"**
 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**
 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 **yes**
 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 **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**
 Is the Screw Shaft Tunnel watertight **none** Is it fitted with a watertight door **✓** worked from **✓**

OILERS, &c.—(Letter for record) Manufacturers of Steel

Total Heating Surface of Boilers **1496 sq ft** Is Forced Draft fitted **no** No. and Description of Boilers
 Working Pressure **180 lbs** Tested by hydraulic pressure to **185 lbs** Date of test **1917** No. of Certificate
 Can each boiler be worked separately **no** Area of fire grate in each boiler **5.94** No. and Description of Safety Valves to
 each boiler **two, spring loaded** Pressure to which they are adjusted **185 lbs** Are they fitted with easing gear **yes**
 Smallest distance between boilers or uptakes and bunkers **9"** Mean dia. of boilers **36"** Length **12'** Material of shell plates
 Thickness **3/8"** Range of tensile strength **45,000** Are the shell plates welded or flanged **no** Descrip. of riveting: cir. seams
 long. seams **no** Diameter of rivet holes in long. seams **3/16"** Pitch of rivets **4"** Lap of plates or width of butt straps
 Per centages of strength of longitudinal joint **85%** Working pressure of shell by rules **180 lbs** Size of manhole in shell
 Size of compensating ring **no** No. and Description of Furnaces in each boiler **no** Material **no** Outside diameter
 Length of plain part **no** Thickness of plates **no** Description of longitudinal joint **no** No. of strengthening rings
 Working pressure of furnace by the rules **no** Combustion chamber plates: Material **no** Thickness: Sides **no** Back **no** Top **no** Bottom
 Pitch of stays to ditto: Sides **no** Back **no** Top **no** If stays are fitted with nuts or riveted heads **no** Working pressure by rules
 Material of stays **no** Area at smallest part **no** Area supported by each stay **no** Working pressure by rules **no** End plates in steam space:
 Material **no** Thickness **no** Pitch of stays **no** How are stays secured **no** Working pressure by rules **no** Material of stays **no**
 Area at smallest part **no** Area supported by each stay **no** Working pressure by rules **no** Material of Front plates at bottom
 Thickness **no** Material of Lower back plate **no** Thickness **no** Greatest pitch of stays **no** Working pressure of plate by rules
 Diameter of tubes **no** Pitch of tubes **no** Material of tube plates **no** Thickness: Front **no** Back **no** Mean pitch of stays
 Pitch across wide water spaces **no** Working pressures by rules **no** Girders to Chamber tops: Material **no** Depth and
 thickness of girder at centre **no** Length as per rule **no** Distance apart **no** Number and pitch of stays in each
 Working pressure by rules **no** Steam dome: description of joint to shell **no** % of strength of joint
 Diameter **no** Thickness of shell plates **no** Material **no** Description of longitudinal joint **no** Diam. of rivet holes
 Pitch of rivets **no** Working pressure of shell by rules **no** Crown plates **no** Thickness **no** How stayed **no**
 SUPERHEATER. Type **no** Date of Approval of Plan **no** Tested by Hydraulic Pressure to **no**
 Date of Test **no** Is a Safety Valve fitted to each Section of the Superheater which can be shut off from the Boiler
 Diameter of Safety Valve **no** Pressure to which each is adjusted **no** Is Easing Gear fitted **no**

8010-0138

IS A DONKEY BOILER FITTED? *no*

If so, is a report now forwarded?

SPARE GEAR. State the articles supplied:— 1 set of rings for each piston, 1 set air pump valves, 2 top end, 2 bottom end, 2 main bearing bolts; 1 set coupling bolts; 1 set feed & bilge pump valves. Assorted bolts, nuts & rivets.

The foregoing is a correct description,

PLENTY & SON, LIMITED.

W. Davis

Manufacturer.

SECRETARY

Dates of Survey while building { During progress of work in shops -- (1917) Aug 23, Oct 1, Nov 15, Dec 6
During erection on board vessel -- (1917) Oct 30, Nov 27, Dec 6, (1918) Jan 3, 22, Mar 2, 8
Total No. of visits 5 + 7 = 12

Is the approved plan of main boiler forwarded herewith?

Dates of Examination of principal parts—Cylinders 1.11.17 Slides 15.11.17 Covers 15.11.17 Pistons 15.11.17 Rods 15.11.17
Connecting rods 15.11.17 Crank shaft 1.11.17 Thrust shaft 1.11.17 Tunnel shafts ✓ Screw shaft 1.10.17 Propeller 1.10.17
Stern tube 23.8.17 Steam pipes tested 14.1.18 Engine and boiler seatings 30.11.18 Engines holding down bolts 30.11.18
Completion of pumping arrangements 8.3.18 Boilers fixed 3.1.18 Engines tried under steam 2.3.18
Completion of fitting sea connections 27.11.17 Stern tube 27.11.17 Screw shaft and propeller 30.10.17
Main boiler safety valves adjusted 1.3.18 Thickness of adjusting washers P 5/8" 9/16" S.
Material of Crank shaft *Steel* Identification Mark on Do. *N4444* Material of Thrust shaft *Steel* Identification Mark on Do. *N4444*
Material of Tunnel shafts ✓ Identification Marks on Do. ✓ Material of Screw shafts *Steel* Identification Marks on Do. *N4444*
Material of Steam Pipes *Copper* Test pressure 360 lb
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 ✓ If so, state name of vessel ✓

General Remarks (State quality of workmanship, opinions as to class, &c. *Engines Constructed in Surrey, material tested, workmanship good. Sent to Sudbrook & Co fitted on board Rep C. Walker's S/S 231*

The machinery of this vessel has been fitted on board efficiently & tried under steam, and is to be classed with report of + LMC 3.18.

It is submitted that this vessel is eligible for THE REGENT + LMC 3.18.

AWD. 20/3/18.

GRK

The amount of Entry Fee ... £ 1 : 0 : 0
Special ... £ 7 : 18 : 0
Donkey Boiler Fee ... £ : :
Travelling Expenses (if any) £ 1 : 17 : 0
When applied for, 19 DEC 1917
When received, 14.1.1918

W. Blackie

Howland

Engineer Surveyor to Lloyd's Register of

Committee's Minute

TUE. MAR. 26 1918.

Assigned

+ L. MC 3.18

MACHINERY CERTIFICATE

WRITTEN



© 2021

Lloyd's Register Foundation