

Rpt. 4.

REPORT ON MACHINERY.

MON FEB 20 1917
No. 69649

Received at London Office

Date of writing Report 20th Feb 1917 When handed in at Local Office 20th Feb 1917 Port of Newcastle on Tyne

No. in Survey held at 38 on the 38th Reg. Book. Date, First Survey 3rd Jan 1917 Last Survey 16th July 1917

Master Built at Newcastle By whom built Palmers Co Ltd When built 1917

Engines made at Jarrow By whom made Palmers Co Ltd when made 1917

Boilers made at Jarrow By whom made Palmers Co Ltd when made 1917

Registered Horse Power Owners Burnmah Oil Co Ltd Port belonging to British

Nom. Horse Power as per Section 28 446 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes

ENGINES, &c.—Description of Engines Triple Expansion No. of Cylinders Three No. of Cranks 3

Dia. of Cylinders 25.41 & 67 Length of Stroke 45 Revs. per minute 86 Dia. of Screw shaft as per rule 14.78 Material of screw shaft Steel

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 59 1/2

Dia. of Tunnel shaft as per rule 12.40 Dia. of Crank shaft journals as per rule 13.92 Dia. of Crank pin 13 3/4 Size of Crank webs 9 1/2 x 9 1/2 Dia. of thrust shaft under

collars 13 3/4 Dia. of screw 17-6 Pitch of Screw 15-4 No. of Blades 4 State whether moveable No Total surface 102 sq

No. of Feed pumps 2 Diameter of ditto 4 1/2 Stroke 22 1/2 Can one be overhauled while the other is at work Yes

No. of Bilge pumps 2 Diameter of ditto 4 1/2 Stroke 22 1/2 Can one be overhauled while the other is at work Yes

No. of Donkey Engines One Sizes of Pumps 10 & 12 & 12 Duplex No. and size of Suctions connected to both Bilge and Donkey pumps

In Engine Room Three 3 1/2 diameter In Holds, &c. Oil Tanks

One 5" port - stern in cargo space forward

No. of Bilge Injection pumps 2 Connected to condenser, or to circulating pump Pumps Is a separate Donkey Suction fitted in Engine room & size Yes 5"

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

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 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 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 16/5/16 of Stern Tube 16/5/16 Screw shaft and Propeller 16/5/16

Is the Screw Shaft Tunnel watertight None Is it fitted with a watertight door worked from

BOILERS, &c.—(Letter for record 1 Aug. 1552) Manufacturers of Steel Spencers & Sons Ltd

Total Heating Surface of Boilers 5260 sq ft Is Forced Draft fitted Yes No. and Description of Boilers Two Single Ended

Working Pressure 180 lb per sq in Tested by hydraulic pressure to 360 lb per sq in Date of test 24/11/15 No. of Certificate 8821

Can each boiler be worked separately Yes Area of fire grate in each boiler 66.7 sq ft No. and Description of Safety Valves to

each boiler One, high pressure Area of each valve 8.29 sq in Pressure to which they are adjusted 183 lb per sq in Are they fitted with easing gear Yes

Smallest distance between boilers or uptakes and bunkers or woodwork 9-8 Mean dia. of boilers 15-9 Length 11-9 Material of shell plates Steel

Thickness 1 1/8 Range of tensile strength 29 1/2 to 33 tons Are the shell plates welded or flanged No Descrip. of riveting: cir. seams D R Lap

long. seams 265 5 R Diameter of rivet holes in long. seams 17/16 Pitch of rivets 9 7/8 Lap of plates or width of butt straps 21

Per centages of strength of longitudinal joint rivets 85.5 Working pressure of shell by rules 205 lb Size of manhole in shell 16" x 12"

Size of compensating ring 16" x 12" No. and Description of Furnaces in each boiler 3 Doughton Material Steel Outside diameter 49 1/2

Length of plain part top 1 Thickness of plates crown 3 5/8 Description of longitudinal joint Welded No. of strengthening rings

Working pressure of furnace by the rules 203 Combustion chamber plates: Material Steel Thickness: Sides 7/8 Back 7/8 Top 7/8 Bottom 29/32

Pitch of stays to ditto: Sides 7 1/2 x 7 1/2 Back 8 1/2 x 7 1/2 Top 9 x 7 1/2 If stays are fitted with nuts or riveted heads Nuts Working pressure by rules 185

Material of stay Iron Diameter at smallest part 2.36 Area supported by each stay 67/20 Working pressure by rules 185 End plates in steam space

Material Steel Thickness 1 1/2 Pitch of stays 22 x 15/2 How are stays secured Nuts Working pressure by rules 185 Material of stays Steel

Diameter at smallest part 5.45 Area supported by each stay 4070 Working pressure by rules 215 Material of Front plates at bottom Steel

Thickness 1 Material of Lower back plate Steel Thickness 67/16 Greatest pitch of stays 14 Working pressure of plate by rules 226

Diameter of tubes 3 Pitch of tubes 4 1/4 Material of tube plates Steel Thickness: Front 1 Back 13/16 Mean pitch of stays 10 7/8

Pitch across wide water spaces 14 Working pressures by rules 126 lb Girders to Chamber tops: Material Steel Depth and

thickness of girder at centre 8 1/4 x 1 3/4 Length as per rule 23 7/8 Distance apart 9 Number and pitch of stays in each Three 7 1/2

Working pressure by rules 195 lb Superheater on Steam chest; how connected to boiler Schmidt the superheater be shut off and the boiler worked

separately Yes 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

W492-0272

If so, is a report now forwarded?

The foregoing is a correct description.

L. Kemp.

Manufacturer.

Is the approved plan of main boiler forwarded herewith

Connecting rods 29/1/15 Crank shaft 19/2/15 Thrust shaft 13/1/15 Tunnel shafts ~~none~~ Screw shaft 19/2/15 Propeller 14/1/16

Stern tube 14/3/15 Steam pipes tested 14/1/17 Engine and boiler seatings 16/5/16 Engines holding down bolts 18/12/16

Completion of pumping arrangements 16/2/17 Boilers fixed 18/12/16 Engines tried under steam 3/2/17

Main boiler safety valves adjusted 3/2/17 Thickness of adjusting washers PB 20 1/4" 1/2 CB 1 1/4" 5/16 am Br 1 1/2" 3/4

Material of Crank shaft *Cast Steel* Identification Mark on Do. *2.10* Material of Thrust shaft *Cast Steel* Identification Mark on Do. *1.15*

Material of Tunnel shafts None Identification Marks on Do. ☒ Material of Screw shafts Metal Identification Marks on Do. ST3N WC

Material of Steam Pipes *Steel* ✓ Test pressure *540 lbs per sq in* ✓

Is an installation fitted for burning oil fuel yes Is the flash point of the oil to be used over 150°F. yes

Have the requirements of Section 49 of the Rules been complied with. Yes

Is this machinery duplicate of a previous case no If so, state name of vessel ✓

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

has been built under special survey, the materials & workmanship are of good quality, it has been securely fitted on board and satisfactorily tried under steam.

The machinery of this vessel is now in our opinion eligible for record of U.S.M.C. 2-17 (as recd) in ~~the~~ register book.

Steam & Auxiliary boiler plans, boiler invoices, oil fuel
pumping plan & some forging & casting certificates now
forwarded.

Electric light report also now forwarded.

~~100% PROOF~~ + LMC 2.17. FD
Fitted for oil fuel 2.17. F.P. above 150°F

The amount of Entry Fee ...	£ 32 : 0 :	When applied for,	3 - FEB. 1917	George Hurdock	26/2/17
Special ...	£ 42 : 6 :				
Donkey Boiler Fee ...	£	When received,	7 - FEB. 1917	Thomas Field	
Travelling Expenses (if any) £				Engineer Surveyor to Lloyd's Register of British & Foreign Shipping	

Committee's Minute

Assigned

FRI.-2 MAR 1947

+ Lrb 2 17

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*Filed for oil fuel 2. 17. 1907.
F.P. above 150° F.*

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Foundation