

REPORT ON MACHINERY.

Standard "D" Type

Received at London Office

Date of writing Report 2nd July 1918 When handed in at Local Office

3/7/18 Port of West Hartlepool

RI. 12 JUL. 1918

No. in Survey held at W. Hartlepool Reg. Book.

Date, First Survey 23rd Oct. 1917. Last Survey 17th June 1918.

(Number of Visits 100.)

on the Steel Screw Steamer "War Torpedo" (W. Gray & Co's S.S. No. 900)

Tons { Gross 2337.42 Net 1328.78 When built 1918-6

Master Built at W. Hartlepool By whom built W. Gray & Co. Ltd.

Engines made at W. Hartlepool By whom made Central Marine Engine Works when made 1918

Boilers made at Do. By whom made Do. do. when made 1918

Registered Horse Power 417 Owners Shipping Controller (Sydney Hogg & Co., Insps.) Port belonging to London

Nom. Horse Power as per Section 28 417 Is Refrigerating Machinery fitted for cargo purposes No. Is Electric Light fitted Yes

ENGINES, &c.—Description of Engines Triple Expansion ✓ No. of Cylinders three (3) ✓ No. of Cranks 3 ✓

Dia. of Cylinders 25", 41", 68" Length of Stroke 45" Revs. per minute 74 ✓ Dia. of Screw shaft as per rule 13.57" Material of Screw shaft as fitted 1 1/2" screw shaft) Scrap Iron

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 Yes ✓ If two liners are fitted, is the shaft lapped or protected between the liners ✓ Length of stern bush 60" ✓

Dia. of Tunnel shaft as per rule 12.41" ✓ Dia. of Crank shaft journals as per rule 13.04" ✓ Dia. of Crank pin 13 1/4" Size of Crank webs 20 3/4" x 8 3/8" Dia. of thrust shaft under collars 13 1/4" Dia. of screw 15-6" Pitch of Screw 17-0" No. of Blades 4 State whether moveable No Total surface 75 #

No. of Feed pumps 2 ✓ Diameter of ditto 3 1/2" Stroke 24" Can one be overhauled while the other is at work Yes ✓

No. of Bilge pumps 2 ✓ Diameter of ditto 3 1/2" Stroke 24" Can one be overhauled while the other is at work Yes ✓

No. of Donkey Engines three (3) ✓ Sizes of Pumps General service Donkey 9 1/2" x 7" x 18" No. and size of Suctions connected to both Bilge and Donkey pumps In Engine Room 3, 3"; in tunnel (well) one, 3"; Ballast " 10 1/2" x 12 1/2" x 21" In Holds, &c. forward 6, 3"; after 2, 3";

No. of Bilge Injections one sizes 8" Connected to condenser, or to circulating pump pump Is a separate Donkey Suction fitted in Engine room & size Yes, 3" ✓

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 Some, others, secured to plating of built recess ✓ 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 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 Yes ✓ Is it fitted with a watertight door No. worked from ✓

BOILERS, &c.—(Letter for record S. ✓) Manufacturers of Steel J. Spencer & Sons, Ltd. ✓

Total Heating Surface of Boilers 6021 # Is Forced Draft fitted Yes ✓ No. and Description of Boilers Two (2), Single-ended ✓

Working Pressure 180 lbs ✓ Tested by hydraulic pressure to 360 lbs ✓ Date of test 22/3/18 No. of Certificate 3491 ✓

Can each boiler be worked separately Yes ✓ Area of fire grate in each boiler 75 # No. and Description of Safety Valves to each boiler two (2), Spring ✓ Area of each valve 12.56 # 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 31" Mean dia. of boilers 16-3 5/16" Length 11-9" Material of shell plates steel ✓

Thickness 1 3/32" Range of tensile strength 28 3/4 / 33 tons Are the shell plates welded or flanged No ✓ Descrip. of riveting: cir. seams ✓

long. seams 3ble, dble straps Diameter of rivet holes in long. seams 1 3/8" Pitch of rivets 9 3/8" Lap of plates or width of butt straps 20 1/8" ✓

Per centages of strength of longitudinal joint rivets 87.6 ✓ Working pressure of shell by rules 192 lbs ✓ Size of manhole in shell 16" x 12" ✓

Size of compensating ring flanged ✓ No. and Description of Furnaces in each boiler 4, Dighton's ✓ Material Steel ✓ Outside diameter 44 1/2" ✓

Length of plain part top bottom ✓ Thickness of plates crown 9/16" ✓ Description of longitudinal joint welded ✓ No. of strengthening rings Corrug ✓

Working pressure of furnace by the rules 194 lbs ✓ Combustion chamber plates: Material Steel ✓ Thickness: Sides 23/32" Back 3/4" Top 23/32" Bottom 23/32" ✓

Pitch of stays to ditto: Sides 10 1/8" x 8 3/4" Back 10 1/2" x 9 1/8" Top 10 1/8" x 8 3/4" If stays are fitted with nuts or riveted heads nuts ✓ Working pressure by rules 199 lbs. ✓

Material of stays Steel ✓ Area at smallest part 2.066 # Area supported by each stay 10 1/8" x 8 3/4" Working pressure by rules 210 lbs. End plates in steam space: Material Steel ✓ Thickness 1 7/16" Pitch of stays 24" x 22 1/2" How are stays secured & dble nuts ✓ Working pressure by rules 181 lbs. Material of stays steel ✓

Area at smallest part 9.62 # Area supported by each stay 24" x 22 1/2" Working pressure by rules 190 lbs. Material of Front plates at bottom steel ✓

Thickness 1" Material of Lower back plate steel ✓ Thickness 7/8" Greatest pitch of stays 13 3/4" x 9 1/8" Working pressure of plate by rules 194 lbs. ✓

Diameter of tubes 2 3/4" Pitch of tubes 4" x 3 3/8" Material of tube plates steel ✓ Thickness: Front 1" Back 3/4" Mean pitch of stays 10" x 7 3/4" ✓

Pitch across wide water spaces 13 3/4" Working pressures by rules 189 lbs. Girders to Chamber tops: Material steel ✓ Depth and thickness of girder at centre 10" x 1 3/4" Length as per rule 35 1/2" Distance apart 10 1/8" Number and pitch of stays in each 3, 8 3/4" ✓

Working pressure by rules 194 lbs. Steam dome: description of joint to shell % of strength of joint

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

Pitch of rivets Working pressure of shell by rules Crown plates Thickness How stayed

SUPERHEATER. Type _____ Date of Approval of Plan _____ Tested by Hydraulic Pressure to _____

Date of Test _____ Is a Safety Valve fitted to each Section of the Superheater which can be shut off from the Boiler _____

Diameter of Safety Valve _____ Pressure to which each is adjusted _____ Is Easing Gear fitted _____

IS A DONKEY BOILER FITTED? *No.*

If so, is a report now forwarded?

SPARE GEAR. State the articles supplied:— 2 connecting rod top end & 2 bottom end bolts & nuts; 2 main bearing bolts & nuts; 3 crank shaft & 3 tunnel shaft bolts & nuts; one suction & one discharge valve for feed pump, also for bilge pump; 2 main & 2 donkey feed check valves; 6 cylinder cover & 6 steam chest cover studs & nuts; 12 piston pin ring studs & nuts; one c.i. propeller; 50 capped ferrules; one spring for feed pump escape valve; one set of air pump valves; 6 studs of each size fitted to boiler mountings; 50 fire bars & 8 wing fire bars; 2 rings packing for each piston rod, also for each valve rod; 90 condenser tube packings; 2 boiler safety valve springs; one bronze disc for main main engine stop valve; assorted bolts & nuts, rivets, iron bars & split pins; some spare parts for circulating pump engine, fan engine, steam winches & evaporator; one filter bucket; & 56 lbs. coir fibre for filter.

The foregoing is a correct description,
FOR THE CENTRAL MARINE ENGINE WORKS,
(W. Gray & Co. Ltd.)

John B. Williams J.B.
ASSISTANT SURVEYOR.

Manufacturer.

Dates of Survey while building { During progress of work in shops -- } 1917 Oct. 23, 26, 29 Nov. 7, 19, 21, 23, 26, 27, 28, 30 Dec. 3, 4, 5, 6, 7, 10, 11, 12, 13, 17, 18, 19, 20, 21, 28, 1918 Jan. 4, 8, 9, 10, 11, 14.
{ During erection on board vessel -- } 15, 16, 17, 18, 21, 22, 24, 25, 28, 29, 30, 31, Dec. 1, 5, 6, 7, 8, 11, 12, 13, 15, 18, 19, 20, 21, 22, 25, 26, 28, Dec. 1, 5, 6, 7, 8, 11, 12, 13, 14, 15, 18, 19, 20, 21, 22, 25, 26, 27, April 3, 4, 5, 8, 9, 18, 22, 23, May 3, 13, 15, 30, June 1, 5, 7, 10, 11, 12, 14, 17.
Total No. of visits 100. Is the approved plan of main boiler forwarded herewith *Yes.*

Dates of Examination of principal parts—Cylinders 12/3/18 Slides 21/3/18 Covers 10/6/18 Pistons 13/3/18 Rods 25/2/18
Connecting rods 25/2/18 Crank shaft 15/1/18 Thrust shaft 4/4/18 Tunnel shafts 8/4/18 Screw shaft 26/3/18 Propeller 9/4/18
Stern tube 8/4/18 Steam pipes tested 22/4/18 Engine and boiler seatings 5/6/18 Engines holding down bolts 3/5/18
Completion of pumping arrangements 5/6/18 Boilers fixed 30/5/18 Engines tried under steam 11/6/18
Completion of fitting sea connections 1/6/18 Stern tube 1/6/18 Screw shaft and propeller 1/6/18
Main boiler safety valves adjusted 11/6/18 Thickness of adjusting washers *Start " - " 11/32"; " 9/32"*
Material of Crank shaft *Hot Steel* Identification Mark on Do. 5982 Material of Thrust shaft *Hot Steel* Identification Mark on Do. 5982
Material of Tunnel shafts *Scaff Iron* Identification Marks on Do. 5982 Material of Screw shafts *Scaff Iron* Identification Marks on Do. 5982
Material of Steam Pipes *Steel, lap welded* Test pressure 600 lbs.
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.)

Evaporator fitted on board - coils of same having

The workmanship is good. The Engines & Boilers of this vessel have been constructed under Special Survey & fitted on board in accordance with the requirements of the Society's Rules. And are now, in my opinion, in safe working condition.

The case is respectfully submitted for the record of LMC 6,18 in the Register Book.
FD

It is submitted that
this vessel is eligible to
THE RECORD, + LMC 6.18. F.D.

The amount of Entry Fee ... £ : : When applied for,
Special ... £ 51-18-8 } 3/7/1918
Donkey Boiler Fee ... £ : : When received,
Travelling Expenses (if any) £ 5/7/1918

M. King
12/7/18.
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute
Assigned + LMC 6.18
F.D.



WEST HARTLEPOOL

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