

# REPORT ON MACHINERY.

No. 15529.

Standard "H" Type

Received at London Office WED 31 JUL 1918

19/7/18. Port of West Hartlepool

No. in Survey held at W. Hartlepool Date, First Survey 24<sup>th</sup> Oct 17 Last Survey 8<sup>th</sup> July 1918.

Reg. Book. on the Steel Screw Steamer "War Shell" (W. Gray & Co's S.S. No. 901) Tons { Gross 2345.69 Net 1334.58

Master G. Mann Built at W. Hartlepool By whom built W. Gray & Co, Ltd. When built 1918-7

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

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

Registered Horse Power 266 Owners The Shipping Controller (Sydney Hogg & Co, Mgrs.) Port belonging to London

Nom. Horse Power as per Section 28 266 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 22", 36", 59" Length of Stroke 39" Revs. per minute 69 Dia. of Screw shaft as per rule 12.4" Material of screw shaft as fitted 13" Ingot 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 Yes. 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 Yes. Length of stern bush 58"

Dia. of Tunnel shaft as per rule 10.86" Dia. of Crank shaft journals as per rule 11.4" Dia. of Crank pin 12" Size of Crank webs 18 1/2 x 7 1/4" Dia. of thrust shaft under collars 12" Dia. of screw 15-6" Pitch of Screw 15-9" No. of Blades 4 State whether monable No Total surface 75 1/2 sq ft

No. of Feed pumps 2 Diameter of ditto 3" 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 Ballast 10 1/2 x 12 1/2 x 18" General Service 8 x 6 x 15" No. and size of Suctions connected to both Bilge and Donkey pumps In Engine Room 3, 3" In Holds, &c. For 6, 3"; aft. 3, 3"

In tunnel (well) one, 2 1/2" No. of Bilge Injections one size 10" Connected to condenser, or to circulating pump pump Is a separate Donkey Suction fitted in Engine room & size Yes, 3 1/2"

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 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.

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, Palmers, Steel Coy. of Scotland, W. Beardmore & Co.

Total Heating Surface of Boilers 4500 sq ft Is Forced Draft fitted No. No. and Description of Boilers two (2), Single-ended

Working Pressure 180 lbs. Tested by hydraulic pressure to 360 lbs. Date of test 13/5/18 No. of Certificate 3497

Can each boiler be worked separately Yes. Area of fire grate in each boiler 62 sq ft No. and Description of Safety Valves to each boiler two (2), Spring Area of each valve 8.295 sq ft Pressure to which they are adjusted 18.5 lbs. Are they fitted with easing gear Yes.

Smallest distance between boilers or uptakes and bunkers or woodwork 60" Mean dia. of boilers 15-6" Length 10-6" Material of shell plates Steel

Thickness 1 1/4" Range of tensile strength 28/32 tons Are the shell plates welded or flanged No. Descrip. of riveting: cir. seams long. seams 3/16, 1/2" Diameter of rivet holes in long. seams 1 1/16" Pitch of rivets 9" Lap of plates or width of butt straps 19 1/2"

Per centages of strength of longitudinal joint rivets 88.5% plate 85.4% Working pressure of shell by rules 184 lbs. Size of manhole in shell 16" x 12"

Size of compensating ring flanged No. and Description of Furnaces in each boiler 3, Dayton's Material Steel Outside diameter 49 3/16"

Length of plain part top bottom Thickness of plates crown 37/64" Description of longitudinal joint welded No. of strengthening rings Corrugated

Working pressure of furnace by the rules 185 lbs. Combustion chamber plates: Material Steel Thickness: Sides 1/16" Back 23/32" Top 1/16" Bottom 1/16"

Pitch of stays to ditto: Sides 9 3/4" x 9" Back 9 5/8" x 10 5/8" Top 9 3/4" x 9" If stays are fitted with nuts or riveted heads nuts Working pressure by rules 183 lbs.

Material of stays Steel Area at smallest part 2.066 sq ft Area supported by each stay 10 1/2" x 9 5/8" Working pressure by rules 191 lbs. End plates in steam space:

Material Steel Thickness 1 3/8" Pitch of stays 22" x 21" How are stays secured double nuts Working pressure by rules 183 lbs. Material of stays Steel

Area at smallest part 8.29 sq ft Area supported by each stay 22" x 21" Working pressure by rules 186 lbs. Material of Front plates at bottom Steel

Thickness 13/16" Material of Lower back plate Steel Thickness 15/16" Greatest pitch of stays 15 1/4" x 10 5/8" Working pressure of plate by rules 181 lbs.

Diameter of tubes 3 3/4" Pitch of tubes 4 1/2" x 4 3/8" Material of tube plates Steel Thickness: Front 13/16" Back 3/4" 13/16" centre Mean pitch of stays 11 1/4" x 8 3/4"

Pitch across wide water spaces 14 1/4" Working pressures by rules 185 lbs. Girders to Chamber tops: Material Steel Depth and

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

Working pressure by rules 180 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

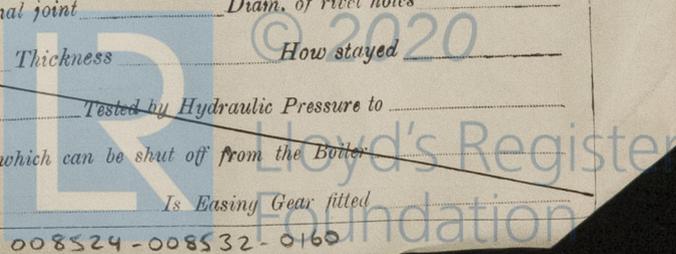
Pitch of rivets Working pressure of shell by rules Crown plates Thickness How stayed

Tested by Hydraulic Pressure to

SUPERHEATER. Type Date of Approval of Plan Is a Safety Valve fitted to each Section of the Superheater which can be shut off from the Boiler

Date of Test Is Easing Gear fitted

Diameter of Safety Valve Pressure to which each is adjusted



008524-008532-0160

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 coupling 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; 25 plain ferrules; one spring for feed pump escape valve; one set air pump valves; 6 studs each size fitted to boiler mountings; 50 fire bars; 8 using fire bars; 2 rings packing for each piston rod also for each valve rod; 90 condenser tube packings; 2 boiler safety valve springs; furnace baffle plates, 8 right + 8 left side, also 3 top; 6 furnace door plates; 6 links for turning engine chain; assorted bolts + nuts, rivets, iron bars + split pins; some parts for centrifugal pump + for auxiliary feed, general service + ballast donkey pumps, also for evaporator + steam winches; one filter bucket + 5 1/2 lbs. coir fibre for filter!

The foregoing is a correct description,

FOR THE CENTRAL MARINE ENGINE WORKS,

(In City & Co. St.)

John B. Williams J.B.

Manufacturer.

Dates of Survey while building: During progress of work in shops -- 1917 Oct 24, Nov 5, 7, 30 Dec 6, 20, 21, 1918 Jan 15, Feb 11, 12, 13, 18, 19, 20, 21, 22, 25, 26, 27, 28. During erection on board vessel -- Mar 1, 4, 5, 7, 8, 12, 13, 15, 18, 19, 20, 21, 22, 25, 26, Apr 4, 5, 9, 11, 12, 15, 16, 17, 18, 19, 22, 23, 24, 25, 26, 29, 30 May 1, 2, 3, 6, 8, 9, 10, 13, 14, 15, 16, 22, 23, 24, 27, 28, 29 June 5, 12, 19, 21, 26, 28 July 2, 4, 5, 8. Total No. of visits 80.

Is the approved plan of main boiler forwarded herewith? Yes.

Is the approved plan of main boiler forwarded herewith? " donkey " " " " "

Dates of Examination of principal parts—Cylinders 6/5/18 Slides 13/5/18 Covers 5/6/18 Pistons 8/5/18 Rods 3/5/18 Connecting rods 2/5/18 Crank shaft 12/4/18 Thrust shaft 12/4/18 Tunnel shafts 22/5/18 Screw shaft 26/4/18 Propeller 16/5/18 Stern tube 3/5/18 Steam pipes tested 28/6/18 Engine and boiler seatings 13/5/18 Engines holding down bolts 12/6/18 Completion of pumping arrangements 28/6/18 Boilers fixed 26/6/18 Engines tried under steam 4/7/18 Completion of fitting sea connections 19/6/18 Stern tube 19/6/18 Screw shaft and propeller 19/6/18 Main boiler safety valves adjusted 4/7/18 Thickness of adjusting washers 5/8" P. valve 17/32" S. valve 17/32" Material of Crank shaft Ingot Steel Identification Mark on Do. 5989 Material of Thrust shaft Ingot Steel Identification Mark on Do. 5989 Material of Tunnel shafts Do. Identification Marks on Do. 5989 Material of Screw shafts Do. Identification Marks on Do. 5989 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? Standard ✓ 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.)

Evaporator fitted on board - coils of same having been tested to 400 lbs. + body to 50 lbs. water pressure.

Little reference to don. M. E. 30-4-18, the dock trial of the engines of this vessel extended over 3 1/2 hours up to 90 + mainly at about 82 revs. per minute.

The workmanship is good. The engines + boilers of this vessel have been constructed under Special Survey + installed 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 7.18 in the Register Book.

It is submitted that this vessel is eligible for THE RECORD. + LMC 7.18.

Handwritten signature and date 28/8/18.

Engineer Surveyor to Lloyd's Register of Shipping.

The amount of Entry Fee ... £ : : When applied for. Special ... £ 52 - 2 - 8 17/7/18. Donkey Boiler Fee ... £ : : When received. Travelling Expenses (if any) £ : : 19/7/18.

Committee's Minute FRI. 2-AUG. 1918 + L.M.C. 7.18 Assigned



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.