

Received at London Office TUE. 12 FEB. 1913

Date of writing Report 28<sup>th</sup> January 1918 When handed in at Local Office 2/2/ 1918. Port of West Hartlepool.No. in Survey held at W. Hartlepool Date, First Survey 3<sup>rd</sup> April 1917 Last Survey 28<sup>th</sup> January 1918.  
Reg. Book. on the Steel Screw Steamer "War Arabis" - Standard "A" Type - W. Gray & Co. Ltd. (Number of Visits 124.)Master G. R. Ritch Built at W. Hartlepool By whom built W. Gray & Co. Ltd. When built 1918  
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 517 Owners Shipping Controller (Phillips, Phillips &amp; Co. Mgrs.) Port belonging to London.

Nom. Horse Power as per Section 28 517 Is Refrigerating Machinery fitted for cargo purposes No. Is Electric Light fitted No.

ENGINES, &c.—Description of Engines Triple Expansion No. of Cylinders 3 No. of Cranks 3  
Dia. of Cylinders 27", 44", 73" Length of Stroke 48" Revs. per minute 75 Dia. of Screw shaft as per rule 14.7" Material of 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 1/2"  
Dia. of Tunnel shaft as per rule 13.334" Dia. of Crank shaft journals as per rule 14.1" Dia. of Crank pin 14 1/2" Size of Crank webs 9" x 22 3/4" Dia. of thrust shaft under  
collars 14 3/4" Dia. of screw 17-6" Pitch of Screw 16-6" No. of Blades 4 State whether moveable No Total surface 102 1/2 sq. ft.  
No. of Feed pumps 2 Diameter of ditto 4" Stroke 24" Can one be overhauled while the other is at work Yes  
No. of Bilge pumps 2 Diameter of ditto 4" Stroke 24" Can one be overhauled while the other is at work Yes  
No. of Donkey Engines three (3) Sizes of Pumps Feed, 10 1/2" x 14" x 24" Sugar, 9 1/2" x 7" x 18" No. and size of Suctions connected to both Bilge and Donkey pumps  
In Engine Room 4, 3 1/2" In Holds, &c. 6, 3 1/2"  
In Tunnel 1, 3 1/2"  
No. of Bilge Injections 1 size 8" 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 Yes, except main injection & tank filling 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 Yes worked from top platform.

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

Total Heating Surface of Boilers 7668 sq. ft. Is Forced Draft fitted Yes No. and Description of Boilers three (3), Single-ended  
Working Pressure 180 lbs. Tested by hydraulic pressure to 360 lbs. Date of test 18/10/17 No. of Certificate 3470  
Can each boiler be worked separately Yes Area of fire grate in each boiler 63.3 sq. ft. No. and Description of Safety Valves to  
each boiler two (2), Spring Area of each valve 9.62 sq. in. 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 36" Mean dia. of boilers 15-6" Length 11-6" Material of shell plates Steel  
Thickness 1/4" Range of tensile strength 28/32 Are the shell plates welded or flanged No Descrip. of riveting: cir. seams 3"  
long. seams 3/16" Diameter of rivet holes in long. seams 1 1/16" Pitch of rivets 9 1/8" Lap of plates or width of butt straps 19 1/2"  
Per centages of strength of longitudinal joint rivets 88.3 Working pressure of shell by rules 182 lbs. Size of manhole in shell 16" x 12"  
plate 85.6 Size of compensating ring flanged No. and Description of Furnaces in each boiler 3, Haghton's Material Steel Outside diameter 50 3/16"  
Length of plain part top Thickness of plates crown 19/32 Description of longitudinal joint welded No. of strengthening rings Corrugated  
bottom Thickness of plates bottom 19/32 Working pressure of furnace by the rules 188 lbs. Combustion chamber plates: Material Steel Thickness: Sides 23/32" Back 11/16" Top 23/32" Bottom 23/32"  
Pitch of stays to ditto: Sides 10 5/8" x 9 1/4" Back 10 5/8" x 8 3/4" Top 10 5/8" x 9 1/4" If stays are fitted with nuts or riveted heads Nuts Working pressure by rules 180 lbs.  
Material of stays Steel Area at smallest part 2.395 sq. ft. Area supported by each stay 10 5/8" x 9 1/4" Working pressure by rules 219 lbs. End plates in steam space:  
Material Steel Thickness 1 1/32" Pitch of stays 2 1/4" x 20 1/2" How are stays secured Loose washers 8 3/4" x 3 1/32" Working pressure by rules 190 lbs. Material of stays Steel  
Area at smallest part 8.29 sq. ft. Area supported by each stay 2 1/4" x 20 1/2" Working pressure by rules 193 lbs. Material of Front plates at bottom Steel  
Thickness 3 1/2" Material of Lower back plate Steel Thickness 2 7/8" Greatest pitch of stays 14" x 8 3/4" Working pressure of plate by rules 180 lbs.  
Diameter of tubes 2 3/4" Pitch of tubes 4" x 3 7/8" Material of tube plates Steel Thickness: Front 3/32" Back 3/4" Mean pitch of stays 8" x 9.687"  
Pitch across wide water spaces 13 5/8" Working pressures by rules 180 lbs. Girders to Chamber tops: Material Steel Depth and  
thickness of girder at centre 10" x 1.75" Length as per rule 35.56" Distance apart 10 5/8" Number and pitch of stays in each 3, 9 1/4"  
Working pressure by rules 187 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 and 2 bottom end bolts & nuts; 2 main bearing bolts & nuts; 3 crank shaft coupling bolts & nuts; 3 tunnel shaft <sup>coupling</sup> bolts & nuts; one suction & one discharge valve for feed pump; one suction & one discharge valve for bilge pump; 3 main & 3 donkey feed check valves; 6 cylinder covers & 6 steam chest cover studs & nuts; 12 piston pin ring studs & nuts; one cast iron propeller; H.P. piston valves; 12 main condenser tubes; 50 condenser ferrules; 100 condenser tube packings; one spring for feed pump escape valve; 6 air pump valves; 6 studs of each size fitted in boiler mounting covers; 200 fire bars; 12 boiler tubes (plain); assorted bolts & nuts & iron bars; some spare parts for circulating pump engine, fan engine & for feed, ballast & general donkeys.

The foregoing is a correct description,

FOR THE CENTRAL MARINE ENGINE WORKS,

(W. G. & Co. Ltd.)

John B. Williams Manufacturer.

ASSISTANT MANAGER.

Dates of Survey while building	{	During progress of work in shops --	1917 Apr 3-4-16-17-18-19-20-25-27-30 May 1-9-17-18-21-22-23-24-31 June 1-4-5-6-7-8-11-13-15-16-22-25-26-27-28-29
		During erection on board vessel --	July 2-3-4-6-9-10-11-12-13-19-20-30-31 Aug 1-2-3-13-14-15-16-17-20-21-22-23-24-27-29-30-31 Sep 4-5-6-7-10-11-12-14-17
			18-19-20-21-24-25-26-28 Oct 1-2-3-5-8-9-11-13-15-16-17-18-19-20-24-26-31 Nov 1-2-6-7-8-9-12-13-14-16-19-21-22-23 Dec 4-5
		Total No. of visits	124

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

" " " donkey " " " ✓

Dates of Examination of principal parts—Cylinders	1/10/17	Slides	11/10/17	Covers	15/11/17	Pistons	2/10/17	Rods	9/10/17		
Connecting rods	9/10/17	Crank shaft	11/9/17	Thrust shaft	11/9/17	Tunnel shafts	19/10/17	Screw shaft	30/8/17	Propeller	24/10/17
Stern tube	5/10/17	Steam pipes tested	2/11 to 6/12/17	Engine and boiler seatings	1/11/17	Engines holding down bolts	19/11/17				
Completion of pumping arrangements	4/12/17	Boilers fixed	12/11/17	Engines tried under steam	19/12/17						
Completion of fitting sea connections	15/1/18	Stern tube	15/1/18	Screw shaft and propeller	15/1/18						
Main boiler safety valves adjusted	19/12/17	Thickness of adjusting washers	15/1/18	Port Boiler, — Port valve 3/8", Starb valve 13/32"							
Material of Crank shaft	Scrap Iron	Identification Mark on Do.	5943	Material of Thrust shaft	Scrap Iron	Identification Mark on Do.	5943				
Material of Tunnel shafts	Scrap Iron	Identification Marks on Do.	5943	Material of Screw shafts	Scrap Iron	Identification Marks on Do.	5943				
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 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. Double surface condenser, of non-vacuum type, also fitted & fixed in machinery space.

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 1,18 in the Register Book. F.D.

It is submitted that this vessel is eligible for THE RECORD. + LMC. 1.18. F.D.

AWD. 13/2/18. W. H. L. J. A. R. K.

The amount of Entry Fee ... £	:	:	When applied for,
Special ...	£	86-9-4	1/2/1918.
Donkey Boiler Fee	£	:	When received,
Travelling Expenses (if any) £	:	:	6/2/1918.

Committee's Minute FRI. 15 FEB. 1918

Assigned

+ L.M.C. 1.18

F.D.



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