

## REPORT ON MACHINERY.

No. 9697

Hull Rpt No. 29960

Received at London Office

JAN 11 1917

Date of writing Report 23-5-17 19 When handed in at Local Office 10/4/17 Port of Middlesbrough  
No. in Survey held at Middlesbrough Date, First Survey 10<sup>th</sup> Jan 1917 Last Survey 28<sup>th</sup> March 1917  
Reg. Book. on the steel screw tug "William Westborough" (Number of Visits 15 (23-5-1917 till)  
Master Built at Selby By whom built Cochrane & Sons Ltd SSN: 687 Tons Gross 155 Net 110  
Engines made at Middlesbrough By whom made Richardson, Wrotgarth & Co. Ltd (R: H 237) When made 1917-5  
Boilers made at Hull By whom made C. D. Holmes & Co. Ltd C19 when made 1917-5  
Registered Horse Power Owners British Admiralty Port belonging to  
Nom. Horse Power as per Section 28 87 Is Refrigerating Machinery fitted for cargo purposes Is Electric Light fitted

ENGINES, &c.—Description of Engines Triple Expansion No. of Cylinders 3 No. of Cranks 3  
Dia. of Cylinders 13", 23", 37" Length of Stroke 26" Revs. per minute 114 Dia. of Screw shaft as per rule 7.88" Material of screw shaft as fitted 8 1/2" 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 3'-0"  
Dia. of Tunnel shaft as per rule 7.04" Dia. of Crank shaft journals as per rule 7.39" Dia. of Crank pin 7 1/2" Size of Crank webs 14 3/8 x 4 3/8 Dia. of thrust shaft under collars 7 1/2" Dia. of screw 9-7 1/2" Pitch of Screw 11'-0" No. of Blades 4 State whether moveable No Total surface 33 sq ft  
No. of Feed pumps 1 Diameter of ditto 2 5/8" Stroke 14 3/4" Can one be overhauled while the other is at work Yes  
No. of Bilge pumps 1 Diameter of ditto 2 5/8" Stroke 14 3/4" Can one be overhauled while the other is at work Yes  
No. of Donkey Engines one 4 3/4" HP Sizes of Pumps 6", 4 1/2" x 6" duplex No. and size of Suctions connected to both Bilge and Donkey pumps In Engine Room two 2" dia. In Holds, &c. one 2" in each compartment  
all suction also connected to 3" duct  
No. of Bilge Injections one size 3 1/2" Connected to condenser, or to circulating pump pump Is a separate Donkey Suction fitted in Engine room & size 3" duct  
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 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 Forward suction How are they protected strong casing  
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 Yes

## BOILERS, &amp;c.—(Letter for record S) Manufacturers of Steel

Total Heating Surface of Boilers 1440 sq ft Forced Draft fitted no No. and Description of Boilers one single ended  
Working Pressure Tested by hydraulic pressure to Date of test No. of Certificate  
Can each boiler be worked separately Area of fire grate in each boiler No. and Description of Safety Valves to each boiler  
Area of each valve Pressure to which they are adjusted Are they fitted with easing gear  
Smallest distance between boilers or uptakes and bunkers or woodwork Mean dia. of boilers Length Material of shell plates  
Thickness Range of tensile strength Are the shell plates welded or flanged Descrip. of riveting: cir. seams  
long. seams Diameter of rivet holes in long. seams Pitch of rivets Lap of plates or width of butt straps  
Per centages of strength of longitudinal joint rivets Working pressure of shell by rules Size of manhole in shell  
Size of compensating ring No. and Description of Furnaces in each boiler Material Outside diameter  
Length of plain part top Thickness of plates crown Description of longitudinal joint No. of strengthening rings  
bottom Thickness of plates bottom  
Working pressure of furnace by the rules Combustion chamber plates: Material Thickness: Sides Back Top Bottom  
Pitch of stays to ditto: Sides Back Top If stays are fitted with nuts or riveted heads Working pressure by rules  
Material of stays Area at smallest part Area supported by each stay Working pressure by rules End plates in steam space:  
Material Thickness Pitch of stays How are stays secured Working pressure by rules Material of stays  
Area at smallest part Area supported by each stay Working pressure by rules Material of Front plates at bottom  
Thickness Material of Lower back plate Thickness Greatest pitch of stays Working pressure of plate by rules  
Diameter of tubes Pitch of tubes Material of tube plates Thickness: Front Back Mean pitch of stays  
Pitch across wide water spaces Working pressures by rules Girders to Chamber tops: Material Depth and  
thickness of girder at centre Length as per rule Distance apart Number and pitch of stays in each  
Working pressure by rules 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:— *Two top end bolts & nuts, two bottom end bolts & nuts, two main bearing bolts & nuts, one set of coupling bolts & nuts, one set of air feed & bilge pump valves, one main & one donkey check valve, two valves for donkey pumps, six pump ring studs & nuts, 3 condenser tubes, one safety valve spring, one set of fire bars & a quantity of bolts & nuts & iron of various sizes*

The foregoing is a correct description,

of and on behalf of

RICHARDSONS, WESTGARTH & Co., Ltd

*M. Jackson*

Manufacturer.

Dates of Survey while building  
During progress of work in shops --  
During erection on board vessel --  
Total No. of visits

*1917. Jan 10. 13. 24. Feb 6. 10. 13. 15. 19. 23. 27. March 3. 8. 14. 20. 28.*

*15*

Is the approved plan of main boiler forwarded herewith

" " " donkey " " "

Dates of Examination of principal parts—Cylinders *19. 2. 17* Slides *27. 2. 17* Covers *27. 2. 17* Pistons *23. 2. 17* Rods *23. 2. 17*  
Connecting rods *23. 2. 17* Crank shaft *20. 1. 17* Thrust shaft *7. 2. 17* Tunnel shafts *None* Screw shaft *12. 1. 17* Propeller *12. 1. 17*  
Stern tube *12. 1. 17* Steam pipes tested *10-5-17* Engine and boiler seatings *20-1-17* Engines holding down bolts *4-5-17*  
Completion of pumping arrangements *17-5-17* Boilers fixed *18-5-17* Engines tried under steam *17-5-17*  
Completion of fitting sea connections *20-1-17* Stern tube *20-1-17* Screw shaft and propeller *23-1-17*  
Main boiler safety valves adjusted *15-5-17* Thickness of adjusting washers *7/16 & 5/16*

Material of Crank shaft *Steel* Identification Mark on Do. *5863A B* Material of Thrust shaft *Steel* Identification Mark on Do. *5867W A B*

Material of Tunnel shafts *None* Identification Marks on Do. ☒ Material of Screw shafts *Steel* Identification Marks on Do. *620 R F M*

Material of Steam Pipes *Solid drawn copper* Test pressure *400 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.)

*These Engines have been constructed under Special Survey and in accordance with the Rules and Specification. The material and workmanship are good. The Engines have now been sent to Selby where they are to be fitted on board the vessel.*

*The machinery of this vessel has been properly fitted & secured on board the vessel, the steam pipes tested as above & on completion the machinery was tested under full power for two hours as required by the Admiralty & found satisfactory, the safety valves have been adjusted under steam & tested for accumulation which did not exceed 210 lbs.*

*In my opinion the vessel is eligible for the record + L.A.C. 5-17.*

It is submitted that  
this vessel is eligible for  
THE RECORD. + L.M.C. 5. 17.

The amount of Entry Fee ... £ *1* : - :  
Special *£ 8* : *14* :  
Donkey Boiler Fee ... £ *8* : *14* :  
Travelling Expenses (if any) £ : :  
When applied for, *10/14/17*  
When received, *26.4.1917*

Committee's Minute

Assigned

MACHINERY CERTIFICATE  
WRITTEN



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Lloyd's Register  
Foundation

Rpt. 5a.

Date of writing

No. in Series  
Reg. Book.

on

Master

Engines made

Boiler made

Registered Ho

MULTITU

(Letter for rec

Boilers on

No. of Certific

safety valves t

Are they fitted

Smallest distan

Material of sh

Descrip. of riv

Top of plates

rules 201

boiler Three

Description of l

plates: Materi

Top 11 "x 6" I

smallest part 2

Pitch of stays 4

Area supported

Lower back plat

Pitch of tubes

water spaces

girder at centre

Working pressur

separately ☒

holes ☒ Pit

stiffened with r

Working pressur

Dates of Survey while building  
During work on board

GENERAL

under spe

of this

by dra

issued o

Survey Fee

Travelling Ex

Committee's

Assigned