

## REPORT ON MACHINERY.

No. 39276

Received at London Office

Date of writing Report 19 When handed in at Local Office 18/10/19 Port of Glasgow WED. 29 OCT. 1919

No. in Survey held at Glasgow & Irvine Date, First Survey 9/5/18. Last Survey 2/1/19 1919

Reg. Book. on the H M Minesweeper BRADFIELD (Number of Visits 32)

ster Built at Irvine By whom built Caird & Co. Ltd. (No 481) Tons {Gross Net} When built 1919

ines made at Glasgow By whom made W. Rowan & Co. Ltd. (No 699) when made 1919

lers made at Renfrew By whom made Babcock & Wilcox when made 1919

istered Horse Power Owners Port belonging to

2. Horse Power as per Section 28 378 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes

INES, &c.—Description of Engines Twin screw Triple Expansion No. of Cylinders 6 No. of Cranks 6

. of Cylinders (2) 13 1/4" - 21 1/4" - 34" Length of Stroke 21" Revs. per minute 256 Dia. of Screw shaft as per rule 7 1/4" Material of screw shaft 8

he 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

he 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

een the bearings in the stern tube, is the space charged with a plastic material insoluble in water and non-corrosive — If two

rs are fitted, is the shaft lapped or protected between the liners — Length of stern bush 36"

. of Tunnel shaft as per rule 6 3/4" Dia. of Crank shaft journals as per rule 6 3/4" Dia. of Crank pin 7" Size of Crank webs 5" thick Dia. of thrust shaft under

ars 6 3/4" Dia. of screw 6-6" Pitch of Screw 8-3 No. of Blades 4 State whether moveable No Total surface 18 1/4"

of Feed pumps 3 bearings Diameter of ditto 5 1/2" Stroke 12" Can one be overhauled while the other is at work Yes

of Bilge pumps Diameter of ditto 7" Stroke 12" Can one be overhauled while the other is at work Yes

of Donkey Engines one Sizes of Pumps 5" x 5" x 6" No. and size of Suctions connected to both Bilge and Donkey pumps

Engine Room (1) 3", (2) 2 1/2" (2) 2 1/2" in each boiler room In Holds, &c. (13) 2 1/2"

of Bilge Injections 2 sizes 5" Connected to condenser, or to circulating pump Yes Is a separate Donkey Suction fitted in Engine room & size Yes 3"

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 Yes

all connections with the sea direct on the skin of the ship Yes Are they Valves or Cocks Valves

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

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

at pipes are carried through the bunkers Bilge How are they protected Wood casings

all Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times Yes

the Bilge Suction Pipes, Cocks, and Valves arranged so as to prevent any communication between the sea and the bilges Yes

es of examination of completion of fitting of Sea Connections 23.4.19 of Stern Tube 17.5.19 Screw shaft and Propeller 17.5.19

he Screw Shaft Tunnel watertight Yes Is it fitted with a watertight door Yes worked from —

TERS, &c.—(Letter for record 5) Manufacturers of Steel Steel 60 of Scotland Ltd. Glasgow & Irvine & Steel 60

al Heating Surface of Boilers 6990 sq ft Is Forced Draft fitted Yes No. and Description of Boilers Two Farrow water tube

Working Pressure 235 lb Tested by hydraulic pressure to 352 1/2 lb Date of test 30.6.19 No. of Certificate 14783

each boiler be worked separately Yes Area of fire grate in each boiler 65 sq ft No. and Description of Safety Valves to

boiler Two Cockham full bore Area of each valve 2.76 sq ft Pressure to which they are adjusted 240 lb Are they fitted with easing gear Yes

llest distance between boilers or uptakes and bunkers or woodwork 8" Mean dia. of boilers Length Material of shell plates

kness Range of tensile strength Are the shell plates welded or flanged Descrip. of riveting: cir. seams

seams Diameter of rivet holes in long. seams Pitch of rivets Lap of plates or width of butt straps

centages of strength of longitudinal joint rivets Working pressure of shell by rules Size of manhole in shell

of compensating ring No. and Description of Furnaces in each boiler Material Outside diameter

th of plain part top Thickness of plates crown Description of longitudinal joint No. of strengthening rings

king pressure of furnace by the rules Combustion chamber plates: Material Thickness: Sides Back Top Bottom

h of stays to ditto: Sides Back Top If stays are fitted with nuts or riveted heads Working pressure by rules

erial of stays Diameter at smallest part Area supported by each stay Working pressure by rules End plates in steam space:

erial Thickness Pitch of stays How are stays secured Working pressure by rules Material of stays

meter at smallest part Area supported by each stay Working pressure by rules Material of Front plates at bottom

kness 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

Aug pitch across wide water spaces Working pressures by rules Girders to Chamber tops: Material Depth and

May thickness of girder at centre Length as per rule Distance apart Number and pitch of stays in each

Working pressure by rules Superheater or Steam chest; how connected to boiler Can the superheater be shut off and the boiler worked

3 separately 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

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No.	Description		When made		Where fixed	of writing
Made at	By whom made					
Working pressure	tested by hydraulic pressure to	Date of test	No. of Certificate	Fire grate area	Description of	in Book.
Valves	No. of Safety Valves	Area of each	Pressure to which they are adjusted	Date of adjustment		
If fitted with easing gear	If steam from main boilers can enter the donkey boiler	Dia. of donkey boiler	Length			
Material of shell plates	Thickness	Range of tensile strength	Descrip. of riveting long. seams			
Dia. of rivet holes	Whether punched or drilled	Pitch of rivets	Lap of plating	Per centage of strength of joint	Rivets	Plates
Working pressure of shell by rules	Thickness of shell crown plates	Radius of do.	No. of stays to do.	Dia. of stays		
Diameter of furnace Top	Bottom	Length of furnace	Thickness of furnace plates	Description of joint		
Working pressure of furnace by rules	Thickness of furnace crown plates	Radius of do.	Stayed by			
Diameter of uptake	Thickness of uptake plates	Thickness of water tubes	Dates of survey			

SPARE GEAR. State the articles supplied:—2 Top and bolts & nuts 2 Bottom and bolts & nuts  
2 main bearing bolts & nuts fuel and bilge pump valves, iron bolts  
and nuts of various sizes also all other items as specified

*The foregoing is a correct description,*

David Rowan & Co Ltd *Manufacturers.*  
*for the East*

Dates of Survey while building	During progress of work in shops - -	1918. May 9. 22 June 4. 24 1919 Mar 14. Apr 23. May 5. 12. 14. 29. June 3. 5. 9. 18. 30. July 7. 14. 14. Aug 11. 14. 14. 21. 28. 28. 29. 30. 31.
	During erection on board vessel - - -	8. 10. 21. 22. 28. Sept 1. 9. 23. 25. 26. Oct 1. 2
	Total No. of visits	32.

Is the approved plan of main boiler forwarded herewith

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*Dates of Examination of principal parts*—Cylinders B.E. Slides B.E. Covers B.E. Pistons B.E. Rods B.E.

Connecting rods B. C. Crank shaft B. C. Thrust shaft B. C. Tunnel shafts B. C. Screw shaft B. C. Propeller 12.

Stern tube 17.5.19 Steam pipes tested 17.7.19 Engine and boiler seatings 23.4.19 Engines holding down bolts 30.6.

Completion of pumping arrangements 23.9.19 Boilers fixed 22.8.19 Engines tried under steam 23.9.19  
326" P 24" 1128 21" P 22

Completion of pumping during 22.8.19 Thickness of adjusting washers 7 at B 64 64 aft-B 64 64 B

Material of Crank shaft Steel Identification Mark on Do. S.L.B. Material of Thrust shaft Steel Identification Mark on Do. S.L.B.

Material of Tunnel shafts Steel Identification Marks on Do. <sup>4204</sup> 14.3.19 Material of Screw shafts Steel Identification Marks on Do. 14.3.19

Material of Steam Pipes Steel ✓ Test pressure 705 lb

**General Remarks** (State quality of workmanship, opinions as to class, &c.) The Engines of this Vessel have been constructed under the Special Survey of the British Corporation as per certificate attached hereto. The Boilers have been built under the Special <sup>Survey</sup> of this Society. The fitting of the machinery to the Vessel and the trials, have been carried out under the Society's Survey, in accordance with London letter (E) dated 4<sup>th</sup> October 1918.

The Machinery of this Vessel is eligible in  
our opinion to be Classed LMC 10-19.

It is submitted that  
this vessel is eligible for  
THE RECORD. LMC 10.19. F.D.

Subject to the Water Tube Boiler  
being surveyed annually.

The amount of Entry Fee	.. £	62:17	:	:	When applied for,	London
Special	.. .. .	£	125	: 14	6/11/1919	
Donkey Boiler Fee	.. .. .	£	:	:	When received,	
Travelling Expenses (if any)	£	:	:	:	15/11/1920	RBH 16

Engineer Surveyor to Lloyd's Register of British & Foreign Shipping

Committee's Minute

Assigned *Lmc 1019*

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Foundation