

# REPORT ON MACHINERY.

No. 10173

Received at London Office TUE 30 JUL 1918

Date of writing Report 20/7/18 When handed in at Local Office 20/7/18 Port of Middlesbrough  
 No. in Survey held at Stockton-on-Tees Date, First Survey 6<sup>th</sup> Dec<sup>r</sup> 1917 Last Survey 15<sup>th</sup> July 1918  
 Reg. Book. on the Steel Screw Steamer WAR KESTREL (S.S.N. 199) Tons { Gross 5214 Net 3186  
 Master Courtney Built at Stockton By whom built Craig Taylor & Co When built 1918  
 Engines made at Stockton By whom made Messrs Blair & Co Lim<sup>d</sup> (N<sup>o</sup> 1886) when made 1918  
 Boilers made at Stockton By whom made Messrs Blair & Co Lim<sup>d</sup> when made 1918  
 Registered Horse Power Owners The Shipping Controller Port belonging to London  
 Nom. Horse Power as per Section 28 518 5/7 Is Refrigerating Machinery fitted for cargo purposes no Is Electric Light fitted yes

ENGINES, &c.—Description of Engines Tri-compound No. of Cylinders 3 No. of Cranks 3  
 No. of Cylinders 27-44-73 Length of Strokes 48 Revs. per minute 77 Dia. of Screw shaft 14.7 Material of Ing. 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  
 Is the propeller boss yes If the liner is in more than one length are the joints burned in one 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 tight fit If two  
 liners are fitted, is the shaft lapped or protected between the liners Length of stern bush 5-1/4  
 Dia. of Tunnel shaft 13.33 Dia. of Crank shaft journals 14.0 Dia. of Crank pin 14.5 Size of Crank webs 28x9 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 98.2 sq  
 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 3 Sizes of Pumps 10 1/2 x 14 x 24 No. and size of Suctions connected to both Bilge and Donkey pumps  
 In Engine Room 4 @ 3 1/2 In Holds, &c. 2 @ 3 1/2 each hold except aftermost when  
one @ 3 1/2 Arranged to carry oil fuel in D.B. tanks, see note re joints of pipes  
 No. of Bilge Injections 1 sizes 13 Connected to centrifugal circulating pump yes 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 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 Suctions to forward holds How are they protected wood ceiling  
 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  
 Dates of examination of completion of fitting of Sea Connections 6.5.18 of Stern Tube 16.5.18 Screw shaft and Propeller 10.6.18  
 Is the Screw Shaft Tunnel watertight yes Is it fitted with a watertight door no entered worked from upper deck by trunks

OILERS, &c.—(Letter for record (5)) Manufacturers of Steel James John Spence & Sons Lim<sup>d</sup>  
 Total Heating Surface of Boilers 7668 Is Forced Draft fitted yes No. and Description of Boilers 3 single ended  
 Working Pressure 180 Tested by hydraulic pressure to 360 Date of test 1.6.18 No. of Certificate 5902  
 Can each boiler be worked separately yes Area of fire grate in each boiler 63.3 sq No. and Description of Safety Valves to  
 each boiler 2 direct spring Area of each valve 9.62 sq Pressure to which they are adjusted 185 Are they fitted with easing gear yes  
 Smallest distance between boilers 7-0 Inside Max dia. of boilers 15-6 Length 11-6 Material of shell plates steel  
 Thickness 1 1/4 Range of tensile strength 28-32 Are the shell plates welded or flanged no Descrip. of riveting: cir. seams 2-R-lap  
 long. seams 2-B-3 Riv Diameter of rivet holes in long. seams 1 1/2 Pitch of rivets 9 1/8 1 1/2 in 1 1/2 in 1 1/2 in  
 Per centages of strength of longitudinal joint 88.7 Working pressure of shell by rules 182 Size of manhole in 16 x 12  
 plates 85.64 Size of compensating ring flanged No. and Description of Furnaces in each boiler 3 Dighton Material steel Outside diameter 50 3/4  
 Length of plain part 19 Thickness of plates 32 Description of longitudinal joint Weld No. of strengthening rings 23  
 Working pressure of furnace by the rules 188 Combustion chamber plates: Material steel Thickness: Sides 23/32 Back 1/4 Top 23/32 Bottom 23/32  
 Pitch of stays to ditto: Sides 10 5/8 x 9 1/4 Back 10 1/4 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  
 Material of stays steel Diameter at smallest part 2.31 Area supported by each stay 99.5 Working pressure by rules 211 End plates in steam space  
 Material steel Thickness 1 1/2 Pitch of stays 21 1/2 How are stays secured nuts Working pressure by rules 191 Material of stays steel  
 Diameter at smallest part 8.29 Area supported by each stay 467 Working pressure by rules 185 Material of Front plates at bottom steel  
 Thickness 31/32 Material of Lower back plate steel Thickness 27/32 Greatest pitch of stays 13 5/8 x 8 3/4 Working pressure of plate by rules 187  
 Diameter of tubes 2 3/4 Pitch of tubes 4 x 3 3/8 Material of tube plates steel Thickness: Front 31/32 Back 3/4 Mean pitch of stays 9 1/2  
 Pitch across wide water spaces 13 5/8 Working pressures by rules 181 Girders to Chamber tops: Material steel Depth and  
 thickness of girder at centre 10 x 1 3/4 Length as per rule 35 7/8 Distance apart 10 5/8 Number and pitch of stays in each 3 @ 9 1/4  
 Working pressure by rules 188 Superheater or Steam chest; how connected to boiler none Can the superheater be shut off and the boiler worked  
 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

IS A DONKEY BOILER FITTED? *no*

If so, is a report now forwarded?

SPARE GEAR. State the articles supplied: - *Two each of connecting rod top end, bottom end and main bearing bolts and nuts: 3 crank shaft + 3 tunnel shaft coupling bolts + nuts: one set each of feed and bilge pump valves: 3 each main and donkey feed check valves: assorted bolts + nuts, iron of various sizes, one cast iron propeller and minor gear as per specification*

The foregoing is a correct description,  
*For Blair & Co., Limited*  
*See Netherby*

Manufacturer.

Dates of Survey while building  
During progress of work in shops: 1917 Dec 6, 7, 27, 1918 Jan 11, 21, 28, 28, 30 Feb 18, 22, 25, 27 Mar 2, 7, 8, 11, 13, 14, 18, 20, 22, 28  
During erection on board vessel: 20, 21, Apr 2, 4, 5, 8, 10, 11, 12, 15, 17, 19, 23, 24, 26, 29, 30 May 3, 6, 8, 9, 11, 13, 15, 16, 17, 22, 24, 27, 29, 30 June 1, 4, 6, 10, 12, 17, 19, 21, 22, 25, 26 July 1, 4, 8, 9, 10, 12, 15  
Total No. of visits: *71*

Is the approved plan of main boiler forwarded herewith *yes*  
*Return for duplicate Boiler*

Dates of Examination of principal parts - Cylinders 20.3.18 Slides 20.3.18 Covers 20.3.18 Pistons 20.3.18 Rods 4.4.18  
Connecting rods 8.4.18 Crank shaft 28.3.18 Thrust shaft 22.3.18 Tunnel shafts 12.4.18 Screw shaft 22.5.18 Propeller 22.5.18  
Stern tube 29.4.18 Steam pipes tested 6-10-17 Engine and boiler seatings 16.5.18 Engines holding down bolts 17.6.18  
Completion of pumping arrangements 15.7.18 Boilers fixed 4.7.18 Engines tried under steam 4.7.18  
Main boiler safety valves adjusted 4.7.18 Thickness of adjusting washers P-Blk 5 1/2 : C-Blk 5 1/2 : S-Blk 5 1/2 B  
Material of Crank shaft *Eng Steel* Identification Mark on Do. *7135* Material of Thrust shaft *Eng Steel* Identification Mark on Do. *3059-N*  
Material of Tunnel shafts *Eng Steel* Identification Marks on Do. *3059-N* Material of Screw shafts *Eng Steel* Identification Marks on Do. *7135*  
Material of Steam Pipes *Lap welded steel* Test pressure *540 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 *yes* If so, state name of vessel *"War Vulture" Rpt No 10132*

General Remarks (State quality of workmanship, opinions as to class, &c.) *The machinery of this vessel has been built under special survey. The materials and workmanship are sound and good and on completion the engines and boilers were examined under full working conditions and found satisfactory. The work has been completed in accordance with the amended specification with the exception that the joints of the double bottom tank pipes, which may be used for the passage of oil, are made with double ply asbestos + wire gauze fitted between unmachined flanges instead of machined flanges and 1/8" cardboard. The machinery being in a good and efficient condition renders the vessel eligible in my opinion to have the notations of LMC-7.18 and "carrying fuel oil F.P. above 150°F" in the S.B. in the Register Book*

Note: - The vessel is fitted with *Electric Light and Wireless*

It is submitted that this vessel is eligible for THE RECORD + LMC 7.18 F.D. *APD*

The amount of Entry Fee ... £  
Special ... £ *116 17 4* 22/7/18  
Donkey Boiler Fee ... £  
Travelling Expenses (if any) £  
When applied for, *22/7/18*  
When received, *31.7.18*

*Wm Morrison*  
Engineer Surveyor to Lloyd's Register of British & Foreign Shipping  
*31/7/18*

Committee's Minute  
Assigned *7.10.18*

MIDDLESBRO

Signatures are required not to write on or below the space for Committee's Minute.

