

Rpt. 4.

REPORT ON MACHINERY.

No. 27401

TUE. JAN. 7-1919

Date of writing Report 6-1-1919 When founded in at Local Office 6-1-1919 Port of Sunderland
No. in Survey held at Sunderland Date, First Survey 7 June 1918 Last Survey 6-1-1919
Reg. Book. 488 on the new steel S/S "WAR MERLIN" (Number of Visits 33)
Master Griffiths Built at Sunderland By whom built Short Brothers & Co. Ltd. S/S No. 402 Tons { Gross 5175 5257
Engines made at Sunderland By whom made North Eastern Marine Eng Co. Ltd. (No. 2362) when made 1919
Boilers made at Sunderland By whom made North Eastern Marine Eng Co. Ltd. (No. 2362) when made 1919
Registered Horse Power Owners The Shipping Controller. (E.C. Thun) Port belonging to London
Nom. Horse Power as per Section 28 517 Is Refrigerating Machinery fitted for cargo purposes no Is Electric Light fitted yes

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 14.7" as per rule 15.39" Material of screw shaft 316 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 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 5-0 1/2"
Dia. of Tunnel shaft as per rule 13.32" as fitted 14 1/2" Dia. of Crank shaft journals as per rule 14 1/2" as fitted 14 1/2" Dia. of Crank pin 1-2 1/2" Size of Crank webs 1-10 1/2" x 9 Dia. of thrust shaft under
collars 1-2 1/2" Dia. of screw 14-6" Pitch of Screw 16-6" No. of Blades 4 State whether moveable no Total surface 98.2 sq ft
No. of Feed pumps 2 Diameter of ditto 4" Stroke 2'-0" Can one be overhauled while the other is at work yes
No. of Bilge pumps 2 Diameter of ditto 4" Stroke 2'-0" Can one be overhauled while the other is at work yes
No. of Donkey Engines 3 Sizes of Pumps 10 1/2" & 14" x 24" 2 @ 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. No. 1 hold 2 @ 3 1/2" No. 2 hold 2 @ 3 1/2"
lower bunker 2 @ 3 1/2" No. 3 hold 2 @ 3 1/2" No. 4 hold 1 @ 3 1/2" Tunnel well 1 @ 3"
No. of Bilge Injections 1 sizes 13" Connected to condenser, or to circulating pump b.p. 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 main below, all others 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 hold suction How are they protected under timber boards
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 access by trunk from deck.

BOILERS, &c.—(Letter for record 5) Manufacturers of Steel John Spencer & Sons Ltd.
Total Heating Surface of Boilers 7668 sq ft Is Forced Draft fitted yes No. and Description of Boilers three single ended marine
Working Pressure 180 Tested by hydraulic pressure to 360 Date of test 6-11-18 No. of Certificate 3508
Can each boiler be worked separately yes Area of fire grate in each boiler 63 sq ft No. and Description of Safety Valves to
each boiler two direct opening Area of each valve 9.6 sq in Pressure to which they are adjusted 185 Are they fitted with easing gear yes
Smallest distance between boilers or uptakes and bunkers or woodwork 1'-8" Mean dia. of boilers 15'-6" Length 11'-8 1/2" Material of shell plates steel
Thickness 1 1/2" Range of tensile strength 28-32 tons Are the shell plates welded or flanged no Descrip. of riveting: cir. seams DR
long. seams BBS. TR Diameter of rivet holes in long. seams 1 1/2" Pitch of rivets 9 7/8" Lap of plates or width of butt straps 1'-8 1/2"
Per centages of strength of longitudinal joint rivets 85.5 Working pressure of shell by rules 182 Size of manhole in shell 16" x 12"
Size of compensating ring flanged No. and Description of Furnaces in each boiler 3 Deighton Material steel Outside diameter 4'-2 3/16"
Length of plain part top 19" bottom 32" Thickness of plates crown 19" bottom 32" Description of longitudinal joint welded No. of strengthening rings
Working pressure of furnace by the rules 188 Combustion chamber plates: Material steel Thickness: Sides 25/32" Back 25/32" Top 25/32" Bottom 25/32"
Pitch of stays to ditto: Sides 10 3/8" x 10 3/8" Back 11 1/8" x 9 1/2" Top 10 3/8" x 10 3/8" If stays are fitted with nuts or riveted heads nuts Working pressure by rules 180
Material of stays steel Area at smallest part 2.360" Area supported by each stay 11260" Working pressure by rules 187 End plates in steam space:
Material steel Thickness 1 1/2" Pitch of stays 21" x 21 1/2" How are stays secured B & W Working pressure by rules 187 Material of stays steel
Area at smallest part 7980" Area supported by each stay 4560" Working pressure by rules 182 Material of Front plates at bottom steel
Thickness 3/32" Material of Lower back plate steel Thickness 1/8" Greatest pitch of stays 13 3/4" x 9 1/2" Working pressure of plate by rules 190
Diameter of tubes 2 3/4" Pitch of tubes 4" x 3 7/8" Material of tube plates steel Thickness: Front 31/32" Back 3/4" Mean pitch of stays 9 1/16"
Pitch across wide water spaces 1'-1 5/8" Working pressures by rules 181 Girders to Chamber tops: Material steel Depth and
thickness of girder at centre 2 @ 9 1/2" x 7/8" Length as per rule 35 1/2" Distance apart 10 3/8" Number and pitch of stays in each 2 @ 10 3/8"
Working pressure by rules 180 Steam dome: description of joint to shell none % 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

W440-0089

IS A DONKEY BOILER FITTED? *no* ✓

If so, is a report now forwarded? —

SPARE GEAR. State the articles supplied:— *Two connecting rod top and bottom end bolts & nuts. Two main bearing bolts. One set of coupling bolts. One set of feed and bilge pump valves. iron and bolts of various sizes. one propeller.*

The foregoing is a correct description,

FOR THE NORTH EASTERN MARINE ENGINEERING CO. LD

Geo L Weir

Manufacturer.

Dates of Survey while building { During progress of work in shops -- *1918. Jun 7, 10, 24, 28 Jul 1, 2, 15, 16 Aug 1, 7, 8, 12, 13, 14, 20, 28 Sep 3, 6, 11, 13, 16, 17, 20 Oct 1, 4, 9, 10, 14, 15*
During erection on board vessel -- *17, 18, 21, 23, 25, 29, 31 Nov 6, 15, 25, 26, 27, 28 Dec 2, 3, 6, 9, 10, 16, 20, 23, 27 Jan 6.*
Total No. of visits *(53)* Is the approved plan of main boiler forwarded herewith *yes*

" " " donkey " " " *yes*

Dates of Examination of principal parts—Cylinders *13-8-18* Slides *7-8-18* Covers *16-8-18* Pistons *16-8-18* Rods *28-8-18*
Connecting rods *16-7-18* Crank shaft *7-8-18* Thrust shaft *7-8-18* Tunnel shafts *11-9-18* Screw shaft *18-10-18* Propeller *2-9-18*
Stern tube *30-9-18* Steam pipes tested *11-12-18* Engine and boiler seatings *9-10-18* Engines holding down bolts *9-12-18*
Completion of pumping arrangements *20-12-18* Boilers fixed *6-12-18* Engines tried under steam *23-12-18*
Completion of fitting sea connections *17-10-18* Stern tube *25-11-18* Screw shaft and propeller *27-11-18*
Main boiler safety valves adjusted *23-12-18* Thickness of adjusting washers *Port boiler - 1 1/2"; Cent boiler - 1 1/2"; Star boiler - 1 1/2"*
Material of Crank shaft *1. Steel* Identification Mark on Do. *7606 R.W.C.* Material of Thrust shaft *1. Steel* Identification Mark on Do. *7606 R.W.C.*
Material of Tunnel shafts *1. Steel* Identification Marks on Do. *7606 R.W.C.* Material of Screw shafts *1. Steel* Identification Marks on Do. *7606 R.W.C.*
Material of Steam Pipes *Lap welded wrought iron* Test pressure *540 pounds per sq. in.*

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 *Standard "B" Type* ✓

General Remarks (State quality of workmanship, opinions as to class, &c.)

*The workmanship and materials are good.
The machinery has been constructed under special survey and is eligible
in my opinion for classification and the record + LMC 1.19*

It is submitted that
this vessel is eligible for
THE RECORD. + LMC 1.19. F.D.

The amount of Entry Fee ... £ : : When applied for,
Special ... £ *116: 16.5* 3-1 19-19
Donkey Boiler Fee ... £ : :
Travelling Expenses (if any) £ : :
When received, *16.1.19 RBR*
17/1/19

Committee's Minute

Assigned

FRI. 10 JAN. 1919

+ LMC 1.19

7.8 MACHINERY DEPT. DATE

L.D. Davis
Engineer Surveyor to Lloyd's Register of Shipping.



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Foundation