

Rpt. 4.

REPORT ON MACHINERY.

No. 4600

SUNDERLAND RPT. NO.

27922

Received at London Office

Date of writing Report

19

When handed in at Local Office

14. June 1920 Port of MANCHESTER

No. in Survey held at
Reg. Book.

BRADFORD

Date, First Survey 25. April 1918 Last Survey 17. May 1920

on the TRIPLE EXPANSION MARINE ENGINE

No. 1718 "CRETEBLOCK"

(Number of Visits 17. + 16. Gross

Tons

Net

Master

Built at SHOREHAM

By whom built

JOHN VER MEHR

(TUG No. 26)

When built

1920.

Engines made at

BRADFORD

By whom made

NEWTON BEAN & MITCHELL

when made

1920-5

Boilers made at

By whom made

when made

1920.

Registered Horse Power

Owners

Port belonging to

London

Nom. Horse Power as per Section 28 122.

Is Refrigerating Machinery fitted for cargo purposes

No

Is Electric Light fitted

Yes

ENGINES, &c.—Description of Engines STEAM TRIPLE EXPANSION INVERTED No. of Cylinders 3 No. of Cranks 3
Dia. of Cylinders 15", 25", 40" Length of Stroke 27" Revs. per minute 120 Dia. of Screw shaft as per rule 8.37" Material of shaft as fitted 8 7/8" screw shaft forged
Is the screw shaft fitted with a continuous liner the whole length of the stern tube No liner (VICKERS) PATENT Is the after end of the liner made water tight
in the propeller boss 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 If two
liners are fitted, is the shaft lapped or protected between the liners Length of stern bush 3' 3 3/8"
Dia. of Tunnel shaft as per rule 7.45" as fitted 7.5" Dia. of Crank shaft journals as per rule 7.82" as fitted 7 7/8" Dia. of Crank pin 7 7/8" Size of Crank webs 5 1/4" x 5" Dia. of thrust shaft under
collars 8" Dia. of screw 10' 0" Pitch of Screw 9' 9" No. of Blades 4 State whether moveable No Total surface 34 ft²
No. of Feed pumps 2 Diameter of ditto 2 1/2" Stroke 14" Can one be overhauled while the other is at work Yes
No. of Bilge pumps 2 Diameter of ditto 2 1/2" Stroke 14" Can one be overhauled while the other is at work Yes
No. of Donkey Engines 2 Sizes of Pumps 6" x 4" x 6"; 5" x 5" x 6" No. and size of Suctions connected to both Bilge and Donkey pumps
In Engine Room 3 @ 2" In Holds, &c. F. Compt. 1 @ 2"; Main Compt. 1 @ 2";
Aft Compt. 1 @ 2"
No. of Bilge Injections 1 sizes 5" Connected to condenser, or to circulating pump C.P. Is a separate Donkey Suction fitted in Engine room & size Yes, 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
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
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 None Is it fitted with a watertight door worked from

BOILERS, &c.—(Letter for record) Manufacturers of Steel

Total Heating Surface of Boilers Is Forced Draft fitted No. and Description of Boilers
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 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

If not, state whether, and when, one will be sent

If not, state whether, and when, one will be sent

3m.7.19

410-091E00-051E00

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Lloyd's Register
Foundation

IS A DONKEY BOILER FITTED?

If so, is a report now forwarded?

SPARE GEAR.

State the articles supplied:—

One c.i. ^{*}propeller, one set each of M.P. and L.P. piston rings, one set of shaft coupling bolts, two bolts for connecting rod top end and two for bottom end, two bolts for main bearings, one set of valves each for air, circulating, feed and bilge pumps, one spring of each size as fitted on escape valves, 24 condenser ferrules, assorted bolts and nuts, spanners, eyebolts and gland packing and packing frame.

^{*}Spare propeller supplied, but not placed on board the vessel.

E. H. A.

The foregoing is a correct description,

Hewton, Bean & Mitchell

Manufacturers.

Dates of Survey while building { During progress of work in shops -- } 25/4/18, 24/6/18, 8/7/18, 7/8/18, 11/9/18, 22/10/18, 23/12/18, 25/1/19, 12/2/19, 18/3/19, 28/4/19, 2/5/19, 5/5/19
 { During erection on board vessel -- } 1st. 1920. June 9, 14, 15, 18, 28, July 2, 7, 13, 16, 17, Aug. 20, 25, 26, 27, 31, Sept. 1, 16.
 Total No. of visits 1st. 16, +17)

Is the approved plan of main boiler forwarded herewith

" " " donkey " " "

Dates of Examination of principal parts—Cylinders 7-8-18 Slides 8-7-18 Covers 8-7-18 Pistons 8-7-18 Rods 22-10-18
 Connecting rods 18-3-19 Crank shaft 11-12-18 Thrust shaft 1-2-19 Tunnel shafts 3-12-18 Screw shaft 2-3-20 Propeller 2-3-20
 Stern tube 2-3-20 Steam pipes tested 17-7-20 Engine and boiler seatings ✓ Engines holding down bolts 28-6-20
 Completion of pumping arrangements 13-7-20 Boilers fixed 17-7-20 Engines tried under steam 25-8-20
 Completion of fitting sea connections ✓ Stern tube ✓ Screw shaft and propeller ✓
 Main boiler safety valves adjusted 25-8-20 Thickness of adjusting washers F. boiler—F. $\frac{3}{8}$, A $\frac{3}{8}$; A boiler—F. $\frac{5}{16}$, A $\frac{5}{16}$
 Material of Crank shaft O.H. STEEL Identification Mark on Do. W.G.H. Material of Thrust shaft O.H. STEEL Identification Mark on Do. W.G.H.
 Material of Tunnel shaft O.H. STEEL Identification Marks on Do. W.G.H. Material of Screw shafts O.H. STEEL Identification Marks on Do. W.G.H.
 Material of Steam Pipes Laps welded W.I. Test pressure 540 lbs. ^{N^o 1000 P.T.B.}

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 REINFORCED CONCRETE TUG.

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

This machinery has been built under special survey and the materials tested in accordance with the requirements of the Society.

The materials and workmanship so far as could be seen are sound and good and the machinery is eligible in my opinion to be classed with record of L.M.C. when installed on board.

* The screw shaft made for Engines N^o 1000 by Messrs Grant, Ritchie & Co. Kilbarnock, is fitted in this vessel.

SUNDERLAND

— This Machinery has been satisfactorily installed in the vessel and the Survey Completed.

The Machinery is eligible in my opinion for the record * L.M.C. 9, 20

It is submitted that
 this vessel is eligible for
 THE RECORD. + L.M.C. 9.20 FD

Roll
 16/9/20

Ed. W. Hutter
 and

A. Campbell

Engineer Surveyor to Lloyd's Register of Shipping.

The amount of Entry Fee ... £

Special ...

Donkey Boiler Fee ...

Travelling Expenses (if any) £

When applied for,

at London.

When received,

22-4-1920

Committee's Minute FRI. SEP. 17 1920

Assigned

MACHINERY CERT.
 WRITTEN

+ L.M.C. 9.20

F.D.



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