

REPORT ON MACHINERY.

No. 84392

Date of writing Report 29 Dec 1920 When handed in at Local Office 9 FEB 1921 Port of Spencer London
 No. in Survey held at Brightonsea Date, First Survey Oct. 29th 1920 Last Survey 10 Dec 1920
 Reg. Book. on the S. K. "Samuel Drake" (Number of Visits Five)
 Master Built at Paisley By whom built Row M'Lauchlan Tons Gross 1918
 Engines made at Liverpool By whom made Lawcett Preston & Co N°4642 when made 1918
 Boilers made at Paisley By whom made Row M'Lauchlan when made 1918
 Registered Horse Power Owners The Admiralty Port belonging to
 Nom. Horse Power as per Section 28 87 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted No

ENGINES, &c.—Description of Engines Triple Expansion No. of Cylinders 3 No. of Cranks 3
 Dia. of Cylinders 12½" 21" 35" Length of Stroke 26" Revs. per minute as per rule 7.56 Dia. of Screw shaft as fitted 4½" Material of screw shaft as fitted 4½"
 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 ✓ If two
 liners are fitted, is the shaft lapped or protected between the liners ✓ Length of stern bush 34"
 Dia. of Tunnel shaft as per rule 6.91 Dia. of Crank shaft journals as per rule 6.91 Dia. of Crank pin 7½" Size of Crank webs 14" x 4½" Dia. of thrust shaft under
 collars 7½" Dia. of screw 9-6" Pitch of Screw 11-15" No. of Blades 4 State whether moveable No Total surface 35"
 No. of Feed pumps 2 Diameter of ditto 2½" Stroke 12" Can one be overhauled while the other is at work Yes
 No. of Bilge pumps 2 Diameter of ditto 2½" Stroke 12" Can one be overhauled while the other is at work Yes
 No. of Donkey Engines 2 x 3" ejector Sizes of Pumps 6" x 3" x 6" & 6" x 4" x 6" No. and size of Suctions connected to both Bilge and Donkey pumps
 In Engine Room one 2" from 1" one 2" from 1" & one 2" separate aft In Holds, &c. one 2" from Fore Hold. & one 2" from Slush well
also separate 2" ejector from slush well
 No. of Bilge Injections 1 sizes 3½" Connected to condenser, or to circulating pump cp. 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 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 Fore Suctions How are they protected wood 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 ✓ Is it fitted with a watertight door ✓ worked from ✓

BOILERS, &c.—(Letter for record S.) Manufacturers of Steel
 Totgl Heating Surface of Boilers 1619 Is Forced Draft fitted No No. and Description of Boilers One Single Ended
 Working Pressure 180 lb Tested by hydraulic pressure to 360 lb Date of test 26.9.18 No. of Certificate B.C. 2865
 Can each boiler be worked separately ✓ Area of fire grate in each boiler 50 No. and Description of Safety Valves to
 each boiler 2 Spring Loaded Area of each valve 4.9" Pressure to which they are adjusted 180 lb Are they fitted with easing gear Yes
 Smallest distance between boilers or uptakes and bunkers or woodwork 12" INT dia. of boilers 13-6" Length 10-6" Material of shell plates Steel
 Thickness 17/16" Range of tensile strength Are the shell plates welded or flanged No Descrip. of riveting: cir. seams double L.
 long. seams T.R.D.B.S. Diameter of rivet holes in long. seams 1 5/32" Pitch of rivets 8" Emp of plates or width of butt straps 14"
 Per centages of strength of longitudinal joint rivets 89.3 Working pressure of shell by rules 180 lb Size of manhole in shell 16" x 12"
plate 85.5
 Size of compensating ring 9" x 1 5/32" No. and Description of Furnaces in each boiler 3 plain Material Steel Outside diameter 42"
 Length of plain part top 8½" Thickness of plates crown 3/16" Description of longitudinal joint weld No. of strengthening rings ✓
bottom 7.6" Working pressure of furnace by the rules 189 lb Combustion chamber plates: Material Steel Thickness: Sides 7/16" Back 3/32" Top 1/16" Bottom 7/8"
 Pitch of stays to ditto: Sides 9½" Back 9" Top 9½" If stays are fitted with nuts or riveted heads nuts Working pressure by rules 181 lb
 Material of stays S. Area at smallest part 2.07 Area supported by each stay 90.25 Working pressure by rules 206 lb End plates in steam space:
 Material S. Thickness 1 1/16" Pitch of stays 17 1/8" How are stays secured D.N. & W. Working pressure by rules 181 lb Material of stays S.
 Area at smallest part 9.1 Area supported by each stay 298 Working pressure by rules 25 lb Material of Front plates at bottom S.
 Thickness 3/32" Material of Lower back plate S. Thickness 4/16" Greatest pitch of stays 14-9" Working pressure of plate by rules 219 lb
 Diameter of tubes 3½" Pitch of tubes 4 1/4" Material of tube plates S. Thickness: Front 3/32" Back 7/8" Mean pitch of stays 10"
 Pitch across wide water spaces 14" Working pressures by rules 184 lb Girders to Chamber tops: Material S. Depth and
 thickness of girder at centre 8½" Length as per rule 32" Distance apart 9½" Number and pitch of stays in each Two 9½"
 Working pressure by rules 197 lb 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 ✓

UPERHEATER. 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 & 2 bottom end bolts & nuts, 3 main bearing & 1 set coupling bolts & nuts. 1 spare set of valves for each pump fitted. 1 set springs for piston rod packing. 1 safety valve spring. 1 donkey & 1 main check valve. 6 junk ring studs & nuts. 3 condenser tubes 20 condenser gaskets & 50 tape packing. 3 escape valve springs. 1 complete set of firebars & turning bars 1 spanner for manhole door. 3 boiler tubes 6 gauge glasses & washers. 12 zinc plates. 1 cwt. assorted iron*

The foregoing is a correct description,

Manufacturer.

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

1920. Oct 29. Nov 3. 15. 30 Dec 10

Is the approved plan of main boiler forwarded herewith *No*

" " " donkey " " ☒

Dates of Examination of principal parts—Cylinders

Slides

Covers

Pistons

Rods

Connecting rods

Crank shaft

Thrust shaft

Tunnel shafts

Screw shaft

Propeller

Stern tube

Steam pipes tested

Engine and boiler seatings

Engines holding down bolts

Completion of pumping arrangements

Boilers fixed

Engines tried under steam

Completion of fitting sea connections

Stern tube

Screw shaft and propeller

Main boiler safety valves adjusted *10-12-20*

Thickness of adjusting washers *7 7/8" 5 7/8"*

Material of Crank shaft

Identification Mark on Do. *BC 2942 5-9-17*

Material of Thrust shaft

Identification Mark on Do. *BC 2948 5-9-17*

Material of Tunnel shafts

Identification Marks on Do.

Material of Screw shafts

Identification Marks on Do. *BC 2948 5-9-17*

Material of Steam Pipes

Copper

Test pressure

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 *Admiralty Standard Trawler*

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

The machinery of this vessel was built under the Survey and to the Classification of the British Corporation. It has now, with the auxiliaries been opened up, examined, and the dimensions found as stated. The materials and workmanship appear to be sound & good. The machinery has been tried under full power working conditions and found satisfactory, boiler examined under steam when safety valves were adjusted, and the whole is now eligible in my opinion to have the Record of L.M.C 12. 20 in the Register Book.

Certificate (if required) to be sent to
The Surveyors are requested not to write on or below the space for Committee's Minute.

The amount of Entry Fee ... £

Special ... £

Donkey Boiler Fee ... £

Travelling Expenses (if any) £

When applied for.

19.

When received.

19.

Robert Rae

Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute

FRI. JUL 11 1921

Assigned



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Foundation