

REPORT ON MACHINERY.

No. 32518

Date of writing Report 5/3/21 When handed in at Local Office 5/3/21 Port of Hull.
 No. in Survey held at Reg. Book. 5/3/21 Date, First Survey 13/7/20 Last Survey 3/3/1921
 on the S.S. "FÆDRELAND" (Number of Visits 35)

Master Built at "Hull" By whom built "Hull" Tons { Gross 1134
 Engines made at "Hull" By whom made "Hull" Net 585
 Boilers made at "do" By whom made "do" No A256 When built 1921
 Registered Horse Power Owners J. Halvorsen. when made 1921
 Nom. Horse Power as per Section 28 160 Is Refrigerating Machinery fitted for cargo purposes No Port belonging to Bergen.
 Is Electric Light fitted Yes

ENGINES, &c.—Description of Engines

Triple expansion
 Dia. of Cylinders 18"-29"-50" Length of Stroke 33" Revs. per minute 3 No. of Cylinders 3 No. of Cranks 3
 Is the screw shaft fitted with a continuous liner the whole length of the stern tube Yes Dia. of Screw shaft as per rule 10.32 Material of screw shaft Steel
 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 Yes 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 Yes Length of stern bush 3'-7"
 Dia. of Tunnel shaft as per rule 8.96 Dia. of Crank shaft journals as per rule 9.3-9.42 Dia. of Crank pin 9 1/2" Size of Crank webs 15x6 1/2" Dia. of thrust shaft under
 collars 9 1/2" Dia. of screw 13'-0" Pitch of Screw 13'-3" No. of Blades 4 State whether moveable No Total surface 48 sq ft
 No. of Feed pumps Two Diameter of ditto 3" Stroke 20" Can one be overhauled while the other is at work Yes
 No. of Bilge pumps Two Diameter of ditto 3" Stroke 20" Can one be overhauled while the other is at work Yes
 No. of Donkey Engines 2 Sizes of Pumps 6x4x6 BALLAST 7x8x8 No. and size of Suctions connected to both Bilge and Donkey pumps
 In Engine Room 4 @ 2 1/2" dia In Holds, &c. 4 @ 2 1/2" dia.

No. of Bilge Injections one sizes 4 1/2" Connected to condenser, or to circulating pump Yes Is a separate Donkey Suction fitted in Engine room & size 1 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 Yes
 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 Yes
 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 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 Yes Is it fitted with a watertight door Yes worked from Engine room gratings.

BOILERS, &c.—(Letter for record S)

Manufacturers of Steel J. Spencer & Sons Ltd

Total Heating Surface of Boilers 2520 sq ft Is Forced Draft fitted No No. and Description of Boilers 2 S.E. Smith.
 Working Pressure 180 Tested by hydraulic pressure to 360 Date of test 16-9-20 No. of Certificate 3450
 Can each boiler be worked separately Yes Area of fire grate in each boiler 36.5 sq ft No. and Description of Safety Valves to
 each boiler 2 Spring loaded Area of each valve 3.97 sq ft Pressure to which they are adjusted 185 lbs Are they fitted with easing gear Yes
 Smallest distance between boilers or uptakes and bunkers or woodwork 11" to bunkers side Mean dia. of boilers 12'-0" Length 10'-8" Material of shell plates Steel
 Thickness 1" Range of tensile strength 28 to 32 tons Are the shell plates welded or flanged No Descrip. of riveting: cir. seams J.R.L.
 long. seams T.R.D.B.S. Diameter of rivet holes in long. seams 1 1/8" Pitch of rivets 7 1/8" Lap of plates or width of butt straps 1'-3 1/2"
 Per centages of strength of longitudinal joint rivets 86% plate 86% Working pressure of shell by rules 183 Size of manhole in shell 16x12
 Size of compensating ring 2'-6x2'-6x1" No. and Description of Furnaces in each boiler 2 Plain. Material Steel Outside diameter 41 1/8"
 Length of plain part top 38.5" Thickness of plates crown 3 1/2" Description of longitudinal joint Welded. No. of strengthening rings —
 bottom 38.5" bottom 3 1/2" Combustion chamber plates: Material Steel Thickness: Sides 4 1/8" Back 4 1/8" Top 3 1/2" Bottom 4 1/8"
 Working pressure of furnace by the rules 185 If stays are fitted with nuts or riveted heads Yes Working pressure by rules 186 lbs
 Pitch of stays to ditto: Sides 10 1/8x7 1/2" Back 10x8 1/2" Top 14x8 1/2" How are stays secured J.R.W. Working pressure by rules 185 lbs Material of stays Steel
 Material of stays Steel Area at smallest part 1.76 sq ft Area supported by each stay 87.5 sq ft End plates in steam space: —
 Material Steel Thickness 1 1/8" Pitch of stays 17 1/2x15 1/2" Working pressure by rules 185 lbs Material of stays Steel
 Area at smallest part 5.18 sq ft Area supported by each stay 271 sq ft Working pressure by rules 185 lbs Material of Front plates at bottom Steel
 Thickness 3 1/2" Material of Lower back plate Steel Thickness 1 1/8" Greatest pitch of stays 14x8 1/2" Working pressure of plate by rules 193 lbs
 Diameter of tubes 3 1/2" Pitch of tubes 4 1/2x5" Material of tube plates Steel Thickness: Front 3 1/2" Back 7/8" Mean pitch of stays 9.75"
 Pitch across wide water spaces 14" Working pressures by rules 182 lbs Girders to Chamber tops: Material Steel Depth and
 thickness of girder at centre 9x1 1/2" Length as per rule 32 1/2" Distance apart 8 1/2" Number and pitch of stays in each 3 @ 7 1/2"
 Working pressure by rules 187 lbs Steam dome: description of joint to shell —
 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 —
 UPPER HEATER. 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 —

002174-002183-0042

IS A DONKEY BOILER FITTED?

If so, is a report now forwarded?

SPARE GEAR. State the articles supplied:—

SPARE GEAR. State the articles supplied:— 2 connecting rod top end, 2 connecting rod bottom end, 2 main bearing, 8 1 set coupling bolts & nuts, 1 set feed & 1 set bilge pump valves, 3 condenser tubes & 20 flanges, 8 junk ring studs, 1 set air pump valves, 1 set circulating pump valves, fire bar for one furnace, 1 main & 1 aux feed check valve, 8 boiler tubes, 8 stay nuts, 1 safety valve spring, 1 cast iron propeller, a quantity of assorted bolts & nuts & inch of various sizes.

The foregoing is a correct description,

FOR EARLE'S
SHIPBUILDING & ENGINEERING CO. LIMITED

Manufacturer.

Dates of Survey while building	During progress of work in shops --	1920. Jul 15. 16. 22 Aug 4. 17. Sept 6. 7. 8. 9. 13. 15. 16. 21. 22 Oct 4. 5. 13. 24. 29
	During erection on board vessel --	Nov 2. 3. 15. 16. 17. 23. 29 Dec 2. 6. 8. 11 Jan 4. 26. Mar 1. 3
	Total No. of visits	35

Is the approved plan of main boiler forwarded herewith *Yes*

Is the approved plan of main boiler forwarded herewith

” ” ” *donkey* ” ” ”

donkey ,

Dates of Examination of principal parts—Cylinders 9/9/20 Slides 4/10/20 Covers 9/9/20 Pistons 4/10/20 Rods 9/9/20
Connecting rods 15/9/20 Crank shaft 3/4/20 Thrust shaft 2/4/20 Tunnel shafts 2/7/20 Screw shaft 3/1/20 Propeller 3/7/20
Stern tube 3/4/20 Steam pipes tested 29/10/20 Engine and boiler seatings 6/12/20 Engines holding down bolts 6/12/20
Completion of pumping arrangements 3/3/21 Boilers fixed 3/3/21 Engines tried under steam 3/3/21
Completion of fitting sea connections 6/12/20 Stern tube 6/12/20 Screw shaft and propeller 26/1/21.
Main boiler safety valves adjusted 4/3/21 Thickness of adjusting washers PORT ENGINE 5 3/8 STEAM ENGINE 5 1/2
Material of Crank shaft Steel Identification Mark on Do. 3295 Material of Thrust shaft Steel Identification Mark on Do. 2512.
Material of Tunnel shafts Steel Identification Marks on Do. 2513. Material of Screw shafts Steel Identification Marks on Do. 2511
Material of Steam Pipes Copper Test pressure 360 lbs. sq. in.
Is an installation fitted for burning oil fuel No Is the flash point of the oil to be used over 150°F. —

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

It is submitted that
this record is eligible for
THE RECORD. + LMC. 3. 21. CL

Roll
22/3/21 GPR

The amount of Entry Fee	...	£	3-0-0	:	:	When applied for,
Special	...	£	40-0-0	:	:	17/3/21
Donkey Boiler Fee	...	£	:	:	:	When received,
Travelling Expenses (if any)	£	:	:	:	:	24-3-1921

Committee's Minute

Assigned

+ Lm 3.21
C. L.

Engineer Surveyor to Lloyd's Register of Shipping.

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Foundation