

REPORT ON MACHINERY.

No. 39425.

Received at London Office

of writing Report 4th Dec 1919 When handed in at Local Office 6/12/19 Port of Glasgow
 Date, First Survey 10/2/19 Last Survey 3rd Dec 1919
 in Survey held at Glasgow
 on the S.S. FRITHJOF EIDE
 By whom built Campbelltown S.B.C. No 113
 By whom made Ross & Duncan Lugs No 1058
 By whom made Ross & Duncan Blos No 1579/80
 Owners (Capt) B. Pederson & Son
 Port belonging to Haugesund
 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted No

919

ster A. S. Austad Built at Campbelltown
 Lines made at Glasgow
 Makers made at Glasgow
 Registered Horse Power
 Horse Power as per Section 28 142
 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted No

GINES, &c.—Description of Engines Triple Expansion No. of Cylinders 3 No. of Cranks 3
 of Cylinders 18" x 27½" x 45" Length of Stroke 33 Revs. per minute 84 Dia. of Screw shaft as per rule 9.8 as fitted 9.15/16 Material of screw shaft S

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
 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
 are fitted, is the shaft lapped or protected between the liners Length of stern bush 39½"

of Tunnel shaft as per rule 8.54/8 Dia. of Crank shaft journals as per rule 9.28/9 as fitted 9.3/8 Dia. of Crank pin 9½ Size of Crank webs 17½ x 6½ Dia. of thrust shaft under
 of 9¾ Dia. of screw 12-1 Pitch of Screw 13-6 No. of Blades 4 State whether moveable No Total surface 52½

of Feed pumps 2 Diameter of ditto 3" Stroke 16½" Can one be overhauled while the other is at work Yes
 of Bilge pumps 2 Diameter of ditto 3" Stroke 16½" Can one be overhauled while the other is at work Yes

of Donkey Engines 2 Sizes of Pumps 6" x 4" x 6" Ballast 7" x 18" No. and size of Suctions connected to both Bilge and Donkey pumps
 Engine Room 3 @ 2½
 Tunnel well @ 2½
 In Holds, &c. Fore Hold 2 @ 2½. 1 after Hold @ 2½

of Bilge Injections 1 sizes 4" Connected to condenser, or to circulating pump C.P. Is a separate Donkey Suction fitted in Engine room & size Yes
 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

all connections with the sea direct on the skin of the ship Yes Are they Valves or Cocks Both
 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

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
 at pipes are carried through the bunkers None How are they protected ✓

all Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times Yes
 the Bilge Suction Pipes, Cocks, and Valves arranged so as to prevent any communication between the sea and the bilges Yes

of examination of completion of fitting of Sea Connections Greenock Rpt of Stern Tube Greenock Rpt Screw shaft and Propeller Greenock Rpt
 the Screw Shaft Tunnel watertight Yes Is it fitted with a watertight door Yes worked from Upper Deck

MANUFACTURERS, &c.—(Letter for record S) Manufacturers of Steel D. Colville & Sons
 Heating Surface of Boilers 2386 ft² Is Forced Draft fitted No No. and Description of Boilers Two Single Ended Multitubular

Working Pressure 180 lbs Tested by hydraulic pressure to 360 lbs Date of test 31-10-19 No. of Certificate 14964
 each boiler be worked separately Yes Area of fire grate in each boiler 39½ ft² No. and Description of Safety Valves to
 boiler Two Spring loaded Area of each valve 3.96 Pressure to which they are adjusted 185 Are they fitted with easing gear Yes

least distance between boilers 10" Mean dia. of boilers 11-6" Length 10-6" Material of shell plates S
 Range of tensile strength 28/32 Are the shell plates welded or flanged No Descrip. of riveting: cir. seams L.D.R

seams T.R. & D. Shape Diameter of rivet holes in long. seams 1½" Pitch of rivets 6 7/8" width of butt straps 17½"
 rivets 88.5 Working pressure of shell by rules 180 lbs Size of manhole in shell 16" x 12"

be given percentages of strength of longitudinal joint plate 83.6 No. and Description of Furnaces in each boiler 2 Corrugated Material S Outside diameter 46½"
 of compensating ring 7 x 3½ No. of strengthening rings None

length of plain part top 9½ Description of longitudinal joint weld No. of strengthening rings None
 Thickness of plates bottom 9½ Working pressure of furnace by the rules 190 Combustion chamber plates: Material S Thickness: Sides 5/8" Back 5/8" Top 5/8" Bottom 1/2"

of stays to ditto: Sides 8 3/4 x 7 3/4 Back 8 3/4 x 8 1/4 Top 8 1/2 x 7 3/4 If stays are fitted with nuts or riveted heads nuts Working pressure by rules 187
 Diameter at smallest part 1 7/8 Area supported by each stay 72 Working pressure by rules 217 End plates in steam space:

Material S Thickness 3/32 Pitch of stays 15 1/2 x 15 1/8 How are stays secured S. nuts Working pressure by rules 183 Material of stays S
 at smallest part 4 1/4 Area supported by each stay 256 Working pressure by rules 187 Material of Front plates at bottom S

Material of Lower back plate S Thickness 27/32 Greatest pitch of stays 13 1/2 x 8 3/4 Working pressure of plate by rules 190
 Diameter of tubes 3 1/4 Pitch of tubes 4 1/4 x 4 3/8 Material of tube plates S Thickness: Front 27/32 Back 3/4 Mean pitch of stays 9.9

ch across wide water spaces 14 Working pressures by rules 187 Girders to Chamber tops: Material S Depth and
 thickness of girder at centre 7 3/4 x 1 3/4 Length as per rule 30 7/8 Distance apart 8 1/2 Number and pitch of stays in each 3 @ 7 3/4"

Working pressure by rules 187 Superheater or Steam chest; how connected to boiler ✓ Can the superheater be shut off and the boiler worked
 Diameter ✓ Length ✓ Thickness of shell plates ✓ Material ✓ Description of longitudinal joint ✓ Diam. of rivet

Pitch of rivets ✓ Working pressure of shell by rules ✓ Diameter of flue ✓ Material of flue plates ✓ Thickness ✓
 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 ✓

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VERTICAL DONKEY BOILER— Manufacturers of Steel

No.	Description	When made	Where fired
Made at	By whom made	No. of Certificate	Fire grate area
Working pressure	tested by hydraulic pressure to	Date of test	Description of Safety
Valves	No. of Safety Valves	Area of each	Pressure to which they are adjusted
If fitted with easing gear	If steam from main boilers can enter the donkey boiler	Dia. of donkey boiler	Length
Material of shell plates	Thickness	Range of tensile strength	Descrip. of riveting long. seams
Dia. of rivet holes	Whether punched or drilled	Pitch of rivets	Lap of plating
Working pressure of shell by rules	Thickness of shell crown plates	Radius of do.	No. of stays to do.
Diameter of furnace Top	Bottom	Length of furnace	Thickness of furnace plates
Working pressure of furnace by rules	Thickness of furnace crown plates	Radius of do.	Stayed by
Diameter of uptake	Thickness of uptake plates	Thickness of water tubes	Dates of survey

SPARE GEAR. State the articles supplied:— 2 each of top Bottom end & main bearing bolts & nuts
1 set of coupling bolts & nuts, 1 set each of feed & bilge pump valves, assorted cast iron
nuts & bolts

The foregoing is a correct description,
Ross Duncan Manufacturer.

Dates of Survey while building: During progress of work in shops - 1919 Feb 10-13 Mar 25 Apr 12-30 May 21-23-26-29 June 11-16-19-24-26 Aug 6-12-14-22 Sept 2-4-8-9-10-12
During erection on board vessel - 16-18-24-30 Oct 2-6-14-20-23-24-30-31 Nov 3-10-14-18-25-27 Dec 1-3
Total No. of visits 45

Is the approved plan of main boiler forwarded herewith ☒
" " " donkey " " " ☒
Dates of Examination of principal parts—Cylinders 22-8-19 Slides 18-9-19 Covers 18-9-19 Pistons 12-9-19 Rods 18-9-19
Connecting rods 9-9-19 Crank shaft 2-9-19 Thrust shaft 2-9-19 Tunnel shafts 4-9-19 Screw shaft 16-9-19 Propeller 8-9-19
Stern tube 12-9-19 Steam pipes tested 30-10-19 27-11-19 Engine and boiler seatings Gurnock Rpt Engines holding down bolts 17-11-19
Completion of pumping arrangements 3-12-19 Boilers fixed 25-11-19 Engines tried under steam 3-12-19
Main boiler safety valves adjusted 1-12-19 Thickness of adjusting washers P. 3/32 P.Y. 3/32 S.Y. 5 3/16 P.Y. 1/4 S.Y.
Material of Crank shaft Identification Mark on Do. 2-9-19 P.M.S. Material of Thrust shaft Identification Mark on Do. 2-9-19 P.M.S.
Material of Tunnel shafts Identification Marks on Do. 4-9-19 P.M.S. Material of Screw shafts Identification Marks on Do. 16-9-19 J.L.
Material of Steam Pipes Seamless Copper Test pressure 360 lbs.

General Remarks (State quality of workmanship, opinions as to class, &c.)
These Engines Boilers have been built under Special Survey and in accordance with the Rules, the materials and workmanship are sound and good. They have been fitted on board in an efficient manner, tried under working conditions and found satisfactory and are eligible in my opinion to be classed with record of L.M.C. 12-19.

It is submitted that this vessel is eligible for THE RECORD. + L.M.C. 12-19
13/12/19 J.R.R.

The amount of Entry Fee	£ 2 : 0	When applied for	9-12-19
Special	£ 21 : 6	When received	11-12-19
Donkey Boiler Fee	£		
Travelling Expenses (if any)	£		

Committee's Minute GLASGOW 9-DEC 1919
Assigned + LMC 12-19

