

# REPORT ON MACHINERY.

No. 3942H.

WED. DEC. 10. 1919

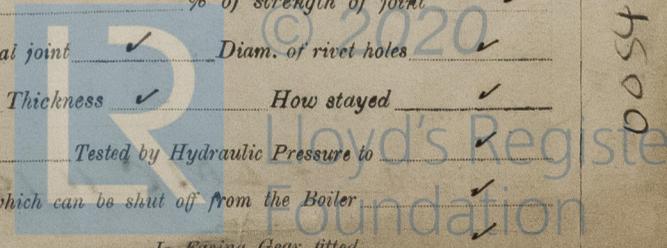
Received at London Office

Date of writing Report 29<sup>th</sup> Nov 1919 When handed in at Local Office 2/12/19 Port of Glasgow  
 No. in Survey held at Glasgow Date, First Survey 28/6/1918 Last Survey 28<sup>th</sup> Nov 1919  
 Reg. Book. on the Rescue Sq. "St Kitts" (Number of Visits 53)  
 Master Built at Port Glasgow By whom built Murdoch & Murray's. Lho. 295 When built 1919 Tons { Gross 429 Net  
 Engines made at Glasgow By whom made Ross & Duncan. Lhs to 1056 when made 1919  
 Boilers made at Glasgow By whom made Ross & Duncan. Lhs to 1575/6 when made 1919  
 Registered Horse Power Owners The Admiralty Port belonging to London  
 Nom. Horse Power as per Section 28 208 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 18 1/4 x 28 1/2 x 48 1/4 Length of Stroke 28 Revs. per minute 128 Dia. of Screw shaft 9.6 1/4 Material of screw shaft S  
 Is the screw shaft fitted with a continuous liner the whole length of the stern tube no lines 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 42"  
 Dia. of Tunnel shaft 8.5 as per rule 8.5 Dia. of Crank shaft journals 8.95 as per rule 8.95 Dia. of Crank pin 9 Size of Crank webs 16 3/4 x 6 1/8 Dia. of thrust shaft under collars 9 Dia. of screw 10.7 Pitch of Screw 12.0 No. of Blades 4 State whether moveable no Total surface 34  
 No. of Feed pumps 2 Diameter of ditto 3/8 Stroke 13 1/2 Can one be overhauled while the other is at work yes  
 No. of Bilge pumps 2 Diameter of ditto 3/8 Stroke 13 1/2 Can one be overhauled while the other is at work yes  
 No. of Donkey Engines 2 General Sizes of Pumps 2.00 x 5 1/2 x 15" No. and size of Suctions connected to both Bilge and Donkey pumps  
 In Engine Room 1 @ 2 1/2: Stakehold 1 @ 2 1/2 In Holds, &c. Fore Peak 1 @ 3" After Peak 1 @ 3"  
 No. of Bilge Injections 1 sizes 6" Connected to condenser, or to circulating pump C.P. Is a separate Donkey Suction fitted in Engine room & size yes - 2 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 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 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 no tunnel Is it fitted with a watertight door ✓ worked from ✓

**BOILERS, &c.**—(Letter for record S) Manufacturers of Steel D. Colville & Sons. Steel Co of Scotland.  
 Total Heating Surface of Boilers 3384 Is Forced Draft fitted yes No. and Description of Boilers Two single ended multitubular  
 Working Pressure 180 lbs Tested by hydraulic pressure to 360 Date of test 19-9-19 No. of Certificate 14906  
 Can each boiler be worked separately yes Area of fire grate in each boiler 43.5 No. and Description of Safety Valves to each boiler Two spring loaded Area of each valve 7.06 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 27" dia. of boilers 12.6" Length 11.0" Material of shell plates S  
 Thickness 1 1/32" Range of tensile strength 28/32 Are the shell plates welded or flanged no Descrip. of riveting: cir. seams L.R.R. long. seams T.R. & all stays Diameter of rivet holes in long. seams 1 1/16" Pitch of rivets 7 3/8" width of butt straps 16"  
 Per centages of strength of longitudinal joint 87 Working pressure of shell by rules 182 Size of manhole in shell 20 x 16"  
 Size of compensating ring 31 x 27 x 1 1/32 No. and Description of Furnaces in each boiler 3. Corrugated Material S Outside diameter 39 1/4"  
 Length of plain part top Thickness of plates bottom 7 1/2" Description of longitudinal joint Weld No. of strengthening rings none  
 Working pressure of furnace by the rules 192 Combustion chamber plates: Material S Thickness: Sides 21/32" Back 21/32" Top 21/32" Bottom 3/4"  
 Pitch of stays to ditto: Sides 9 x 8" Back 9 1/8 x 8 1/8" Top 8 3/4 x 8 1/2" If stays are fitted with nuts or riveted heads nuts Working pressure by rules 202  
 Material of stays S Area at smallest part 1.73 Area supported by each stay 74.2 Working pressure by rules 187 End plates in steam space: Material S Thickness 1 1/8" Pitch of stays 18 x 18" How are stays secured D. nuts Working pressure by rules 185 Material of stays S  
 Area at smallest part 6.33 Area supported by each stay 324 Working pressure by rules 204 Material of Front plates at bottom S  
 Thickness 15/16" Material of Lower back plate S Thickness 27/32" Greatest pitch of stays 14" Working pressure of plate by rules 188  
 Diameter of tubes 2 1/2" Pitch of tubes 3 3/4 x 3 5/8" Material of tube plates S Thickness: Front 15/16" Back 23/32" Mean pitch of stays 7 3/8"  
 Pitch across wide water spaces 13 1/2" Working pressures by rules 180 Girders to Chamber tops: Material S Depth and thickness of girder at centre 7 1/2 x 13 1/4" Length as per rule 30 1/8" Distance apart 8 3/4" Number and pitch of stays in each 2 @ 8 1/2"  
 Working pressure by rules 184 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 ✓



005443-005452-0054

IS A DONKEY BOILER FITTED?

no

If so, is a report now forwarded? ✓

SPARE GEAR.

State the articles supplied:—

1 brace of top & bottom end, main bearing & coupling bolts & nuts  
1 piston rod, 2 eccentric rods, 1 pair each of top & bottom end braces, 2 guide shoes, 1 set of piston rings  
for each piston & for piston valve. 1 pair of eccentric strap bolts, 2 safety valve springs, 1 air pump rod, 1 set of air pump  
valves, 2 feed & 2 bilge pump valves, assorted iron bars, nuts & bolts, screw stays for boilers (14 set) and other  
spares as per Specification ✓

The foregoing is a correct description,

Row & Duncan

Manufacturer.

Dates of Survey while building { During progress of work in shops -- 1919 June 28, Nov 25, Dec 27, 1919 Jan 10, 14, 17, 23 Feb 4, 10, 13, 18, 26, March 10, 14, 20, 30, May 7, 12, 13, 15  
During erection on board vessel --- Nov 3, 26, 28  
Total No. of visits 53

Is the approved plan of main boiler forwarded herewith no

Is the approved plan of donkey boiler forwarded herewith ✓

Dates of Examination of principal parts—Cylinders 24-6-19 Slides 22-8-19 Covers 23-5-19 Pistons 9-9-19 Rods 9-9-19  
Connecting rods 24-6-19 Crank shaft 24-6-19 Thrust shaft 24-6-19 Tunnel shafts 29-5-19 Screw shaft 23-5-19 Propeller 23-5-19  
Stern tube 13-5-19 Steam pipes tested 16-6-19, 10-10-19 Engine and boiler seatings Greenock Rept Engines holding down bolts 10-10-19  
Completion of pumping arrangements 26-11-19 Boilers fixed 10-10-19 Engines tried under steam 31-10-19

Completion of fitting sea connections Greenock Report Stern tube Greenock Report Screw shaft and propeller Greenock Report

Main boiler safety valves adjusted 31-10-19 Thickness of adjusting washers FORD 11" P.V. 3/8" S.V. AFT 11" P.V. 11/32" S.V.

Material of Crank shaft S Identification Mark on Do. 24-6-19 J.E.S. Material of Thrust shaft S Identification Mark on Do. 24-6-19 J.E.S.

Material of Tunnel shafts S Identification Marks on Do. 24-6-19 J.E.S. Material of Screw shafts S Identification Marks on Do. 23-5-19 J.E.S.

Material of Steam Pipes Seamless Copper Test pressure 3 to 4 lbs

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 "St Keyne" Rept no "39212"

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

These Engines and Boilers have been built under Special Survey, in accordance with the Rules and Admiralty Specification: 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. 11-19.

It is submitted that this vessel is eligible for THE RECORD. + L.M.C. 11-19. F.D.

GLASGOW

Committee's Minute GLASGOW 9-DEC-1919  
Assigned + LMC 11, 19  
12/12/19  
10-12-19

The amount of Entry Fee ... £ 64 : 16 :  
Special ... £ : :  
Donkey Boiler Fee ... £ : :  
Travelling Expenses (if any) £ : :  
When applied for, 19/12/19  
When received, 31/11/19



9.12.19