

REPORT ON MACHINERY.

No. 26879

Received at London Office

FRI. NOV. 7 - 1913

of writing Report 11th Oct. 13. When handed in at Local Office Hull Nov 6th 13 Port of Hull.

in Survey held at Hull. Date, First Survey Dec 16/12. Last Survey Nov. 4th 1913.

Book 67 on the steel SS. "Silvio" (Number of Visits 51) Tons Gross 1284
Net 651

Registered at Hull. Built at Dundee. By whom built Dundee S.B. Co When built 1913.

Engines made at Hull. By whom made Amos & Smith Ltd when made 1913.

Motors made at Hull. By whom made Amos & Smith Ltd when made 1913.

Registered Horse Power 196. Owners J. Wilson Sons & Co Ltd. Port belonging to Hull.

Is Refrigerating Machinery fitted for cargo purposes no. Is Electric Light fitted yes.

GINES, &c.—Description of Engines Triple Expansion No. of Cylinders 3 No. of Cranks 3

Di. of Cylinders 18-30-50 Length of Stroke 36 Revs. per minute 110 Dia. of Screw shaft 11 3/4 Material of screw shaft S

Is the screw shaft fitted with a continuous liner the whole length of the stern tube no liners Is the after end of the liner made water tight 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

Are the shafts lapped or protected between the liners yes Length of stern bush 4'-0"

Di. of Tunnel shaft 9.3 Dia. of Crank shaft journals 10 1/4 Dia. of Crank pin 10 1/4 Size of Crank webs 20x6 5/8 Dia. of thrust shaft under bars 10 1/4 Dia. of screw 13-6 Pitch of Screw 13'-3" No. of Blades 4 State whether moveable no Total surface 56 1/2

No. of Feed pumps 2 Diameter of ditto 2 3/4 Stroke 18" Can one be overhauled while the other is at work yes

No. of Bilge pumps 2 Diameter of ditto 2 3/4 Stroke 18" Can one be overhauled while the other is at work yes

No. of Donkey Engines 2 Sizes of Pumps 6 1/4 x 4 1/2 x 6" 7 1/4 x 8 x 8" No. and size of Suctions connected to both Bilge and Donkey pumps 2-2 1/2" on each side of tank. 1-2 1/2" in stokehold.

In Holds, &c. 2-2 1/4" to No. 1 hold. 2-2 1/4" to No. 2 hold. 1-2 1/2" to After Hold. 1-2 1/4" to Tunnel well.

No. of Bilge Injections 1 sizes 4 1/4" Connected to condenser, or to circulating pump yes Is a separate Donkey Suction fitted in Engine room of size yes. 3"

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 Forward bilge tank suction 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

Dates of examination of completion of fitting of Sea Connections 8. 9. 13. of Stern Tube 8. 9. 13. Screw shaft and Propeller 8. 9. 13.

Is the Screw Shaft Tunnel watertight yes Is it fitted with a watertight door yes worked from Top platform

BOILERS, &c.—(Letter for record S) Manufacturers of Steel Messrs. Phoenix & Co. Ltd. Aberdeen

Total Heating Surface of Boilers 3496 Is Forced Draft fitted no No. and Description of Boilers Two. Single-ended.

Working Pressure 180 lbs. Tested by hydraulic pressure to 360 lbs. Date of test 1. 7. 13. No. of Certificate 1995.

Can each boiler be worked separately yes Area of fire grate in each boiler 47.4 No. and Description of Safety Valves to each boiler Two, spring loaded. Area of each valve 5.94 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 10" Mean dia. of boilers 13'-6" Length 10'-6" Material of shell plates S

Thickness 1/16" Range of tensile strength 29-33 Are the shell plates welded or flanged no Descrip. of riveting: cir. seams WR Lap

Long. seams WR S. rivets Diameter of rivet holes in long. seams 1 1/16" Pitch of rivets 7 1/4" Lap of plates or width of butt straps 15 3/8"

Per centages of strength of longitudinal joint 85.6 Working pressure of shell by rules 180 Size of manhole in shell 16x12

Size of compensating ring 40x30x1 1/16" No. and Description of Furnaces in each boiler 3 plain Material S Outside diameter 3-3 5/8"

Length of plain part 81.5 Thickness of plates 13 Description of longitudinal joint Welded No. of strengthening rings yes

Working pressure of furnace by the rules 205 Combustion chamber plates: Material S Thickness: Sides 1/16" Back 1/16" Top 1/16" Bottom 1/16"

Pitch of stays to ditto: Sides 9 1/4 x 9 Back 8 7/8 x 9 1/8 Top 9 1/4 x 9 If stays are fitted with nuts or riveted heads no Working pressure by rules 186

Material of stays S Diameter at smallest part 2.06 Area supported by each stay 88 Working pressure by rules 190 End plates in steam space: area

Material S Thickness 1/16" Pitch of stays 17 1/4 x 17 How are stays secured WNSWS Working pressure by rules 183 Material of stays S

Diameter at smallest part 6.1 Area supported by each stay 294 Working pressure by rules 216 Material of Front plates at bottom S

Thickness 3/32 Material of Lower back plate S Thickness 7/8" Greatest pitch of stays 14 x 9 1/8" Working pressure of plate by rules 183

Diameter of tubes 3 1/4" Pitch of tubes 4 1/8 x 4 1/16" Material of tube plates S Thickness: Front 3/32" Back 27/32" Mean pitch of stays 13 7/8 x 8 7/8"

Pitch across wide water spaces 1/4" Working pressures by rules 184 Girders to Chamber tops: Material S Depth and thickness of girder at centre 9 x 1 1/2" Length as per rule 2-7 1/16" Distance apart 9 3/4" Number and pitch of stays in each 3-9"

Working pressure by rules 190 Superheater or Steam chest; how connected to boiler Can the superheater be shut off and the boiler worked separately

Diameter Length Thickness of shell plates Material Description of longitudinal joint Diam. of rivet holes Pitch of rivets Working pressure of shell by rules Diameter of flue Material of flue plates Thickness If 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

W262-0072

Lloyd's Register Foundation

VERTICAL DONKEY BOILER— Manufacturers of Steel

No.	Description				
Made at	By whom made	When made	Where fixed		
Working pressure	tested by hydraulic pressure to	Date of test	No. of Certificate	Fire grate area	Description of
Valves	No. of Safety Valves	Area of each	Pressure to which they are adjusted	Date of adjustment	
If fitted with casing 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	Per centage of strength of joint	
Working pressure of shell by rules	Thickness of shell crown plates	Radius of do.	No. of stays to do.	Dia. of stays	
Diameter of furnace Top	Bottom	Length of furnace	Thickness of furnace plates	Description of joint	
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: *Two each top & bottom connecting rod bolts nuts, Two bearing bolts nuts, The set feed bilge pump valves, A quantity of assorted bolts & nuts of different sizes, Main & donkey chest valves, The set of air pump valves, 6 Junk ring bolts, 6 Cylinder cover studs nuts, Spare Propeller, the safety valve spring, the spring for each size of escape valve.*

The foregoing is a correct description, **FOR AMOS & SMITH LTD.**
 Manufacturer.

Dates of Survey while building: During progress of work in shops -- 1912: Dec 16, 23, 31. 1913: Jan 21, 27, 28, Feb 5, 8, 11, 18, 20, 24, 28 Mar 5, 7, 8, 13, 14, 17, 19. During erection on board vessel --- Apr 7, 12, 15, 22, 24, 29, May 5, 22, 28, Jun 10, 18, 27, July 1, 8, 14, 29 Aug 13, 21, 29, Sep 5, 8, 13. Total No. of visits 57.

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

Dates of Examination of principal parts—Cylinders 10.6.13. Slides 13.8.13. Covers 13.8.13. Pistons 10.6.13. Rods 10.6.13. Connecting rods 10.6.13. Crank shaft 29.7.13. Thrust shaft 5.9.13. Tunnel shafts 29.7.13. Screw shaft 5.9.13. Propeller 8.9.13. Stern tube 8.9.13. Steam pipes tested 25.9.13. Engine and boiler seatings 8.9.13. Engines holding down bolts 23.9.13. Completion of pumping arrangements 1.10.13. Boilers fixed 23.9.13. Engines tried under steam 1.10.13. Main boiler safety valves adjusted 1.10.13. Thickness of adjusting washers *SBSV 3/32 PV 7/32 PBSV 9/32 PV 7/32*

Material of Crank shaft *S*. Identification Mark on Do. 1082. Material of Thrust shaft *S*. Identification Mark on Do. 1082. Material of Tunnel shafts *S*. Identification Marks on Do. 1082. Material of Screw shafts *S*. Identification Marks on Do. 1082. Material of Steam Pipes *Copper solid drawn*. Test pressure *360 lbs. hyd. press.*

General Remarks (State quality of workmanship, opinions as to class, &c. *The engines & boilers of this vessel have been constructed under special survey in accordance with the Rules. The materials & workmanship are both good. The Boilers tested by hydraulic pressure, and with the engines secured on board & tested under steam they are now in good order & safe working condition, and respectfully submitted as being eligible in my opinion to be classed with the notation of + LMC 11.13 in the Register book.*

It is submitted that this vessel is eligible for **THE RECORD.** I.L.M.C. 11-13.

J.G. Mackillop
 21.11.13
 Engineer Surveyor to Lloyd's Register of British & Foreign Shipping

The amount of Entry Fee	£ 2. -	When applied for,	6/11/13
Special	£ 29. 8	When received,	31/7/13
Donkey Boiler Fee	£ -		
Travelling Expenses (if any)	£ -		

Committee's Minute TUE. NOV. 11. 1913
 Assigned + LMC 11.13

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



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MACHINERY CERTIFICATE WRITTEN 10/11/13

13. REPORT of Hull in on the Iron or Steel Book Built at J. Wilson's No. Elect. RIPTION OF DYNAM brication, Co city of Dynamo re is Dynamo fixed ion of Main Switch Bo tions of auxiliary switc separate Sw t outs are fitted on ma circuits yes. ssel is wired on the do the cut outs of non-oxid all cut outs fitted in eas are permanent instruc all switches and cut-out number of lights pro 'dnoon 40 29. 29. Mast head light 2. Side light re lights, what protect each a re are the switches c RIPTION OF CAB cable carrying 5- ch cables carrying 16 ch cables carrying 8 s to lamps carrying o light cables carrying RIPTION OF INS unoured. shipped s in cables, how mad all the joints of cab made in bunkers, ca here any joints in o are the cables led t