

REPORT ON MACHINERY.

MON. JUL. 20. 1914

Date of writing Report 14/7 1914 When handed in at Local Office 14/7 1914 Port of Christiania
 Received at London Office
 No. in Survey held at Christiania Date, First Survey 4.10.1913 Last Survey 2.7.1914
 Reg. Book. on the 1/8 "Othem" (Number of Visits 25)
 Master G. Myrsten Built at Landefjord By whom built 1/8 Frømmes mek Versted Tons { Gross 564.0
 Engines made at Christiania By whom made 1/8 Skers mek Versted when made 1914 Net 346.22
 Boilers made at Christiania By whom made 1/8 Skers mek Versted when made 1914
 Registered Horse Power 558.4 Owners Søderahlbølsgaet "Polo" Flite Port belonging to Flite
 Nom. Horse Power as per Section 28 116.95 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 13 1/2 x 22 x 34 1/2 Length of Stroke 28 Revs. per minute 102 Dia. of Screw shaft 8 5/16 Material of screw shaft steel
 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 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 no
 If two liners are fitted, is the shaft lapped or protected between the liners no Length of stern bush 4'-8"
 Dia. of Tunnel shaft 4 1/16 Dia. of Crank shaft journals 4 1/16 Dia. of Crank pin 4 1/32 Size of Crank webs 5 x 15 Dia. of thrust shaft under collars 4 1/32 Dia. of screw 10-9 Pitch of Screw 11-9 No. of Blades 4 State whether moveable no Total surface 38 sq. feet
 No. of Feed pumps 2 Diameter of ditto 2 3/8 Stroke 10 1/4 Can one be overhauled while the other is at work yes
 No. of Bilge pumps 2 Diameter of ditto 2 3/4 Stroke 10 1/4 Can one be overhauled while the other is at work yes
 No. of Donkey Engines 2 Sizes of Pumps 5 1/4 x 5 x 5 and 4 1/2 x 2 3/4 x 4 No. and size of Suctions connected to both Bilge and Donkey pumps
 In Engine Room Four 2 inches In Holds, &c. Four 2 inches
 No. of Bilge Injections 1 sizes 5 1/2 Connected to condenser, or to circulating pump condenser Is a separate Donkey Suction fitted in Engine room & size 2 of 2 1/4
 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 no sluices
 Are all connections with the sea direct on the skin of the ship yes Are they Valves or Cocks valves and cocks
 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 in line
 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 no
 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 4/26/14 of Stern Tube 2/4/14 Screw shaft and Propeller 2/7/14
 Is the Screw Shaft Tunnel watertight yes Is it fitted with a watertight door yes worked from engine top

BOILERS, &c.—(Letter for record R15) Manufacturers of Steel Messrs The Glasgow Iron and Steel Co Ltd & The Lancashire Steel Co Ltd and Messrs Wm. Beardmore & Co Ltd
 Total Heating Surface of Boilers 1666.29 Is Forced Draft fitted no No. and Description of Boilers Two single ended with 2 plain furnace
 Working Pressure 180 lbs Tested by hydraulic pressure to 360 lbs Date of test 18-12-13 No. of Certificate 66 & 67
 Can each boiler be worked separately yes Area of fire grate in each boiler 26.45 sq. feet No. and Description of Safety Valves to each boiler Two 2 1/4" spring loaded (patent valves) Area of each valve 3.946 sq. in. Pressure to which they are adjusted 180 lbs Are they fitted with easing gear yes
 Smallest distance between boilers or uptakes and bunkers or woodwork 11" Mean dia. of boilers 9'-6" Length 9'-6" Material of shell plates steel
 Thickness 27/32 Range of tensile strength 28,632 Are the shell plates welded or flanged flanged Descrip. of riveting: cir. seams single
 long. seams double Diameter of rivet holes in long. seams 15/32 Pitch of rivets 6 1/2 Lap of plates or width of butt straps 11 5/8 See via ltr. 24/7/14.
 Per centages of strength of longitudinal joint rivets 85.44 Working pressure of shell by rules 182 lbs Size of manhole in shell 12" x 16"
 Size of compensating ring 6 1/4" x 1" No. and Description of Furnaces in each boiler Two plain Material Steel Outside diameter 3'-0"
 Length of plain part 4'-0" Thickness of plates 29/32 Description of longitudinal joint welded No. of strengthening rings no
 Working pressure of furnace by the rules 182 lbs Combustion chamber plates: Material steel Thickness: Sides 5/8 Back 5/8 Top 1/8 Bottom 5/8
 Pitch of stays to ditto: Sides 4 x 7 1/2 Back 4 x 7 1/2 Top 6" apart If stays are fitted with nuts or riveted heads riv. heads Working pressure by rules 190 lbs
 Material of stays steel Diameter at smallest part 1.23 in Area supported by each stay 52.6 Working pressure by rules 181.4 lbs End plates in steam space: Material steel Thickness 29/32 Pitch of stays 14 1/2 in How are stays secured double nuts and 5 x 2 washers Working pressure by rules 185 lbs Material of stays steel
 Diameter at smallest part 1.16 in Area supported by each stay 210.45 sq. in Working pressure by rules 181 lbs Material of Front plates at bottom steel
 Thickness 29/32 Material of Lower back plate steel Thickness 29/32 Greatest pitch of stays 10 1/2 x 7 1/2 Working pressure of plate by rules no
 Diameter of tubes 3 1/2 in Pitch of tubes 4 1/2 x 4 1/2 Material of tube plates steel Thickness: Front 29/32 Back 13/16 Mean pitch of stays 13 1/2 x 9"
 Pitch across wide water spaces 13 1/2 Working pressures by rules 323 Girders to Chamber tops: Material none Depth and thickness of girder at centre no Length as per rule no Distance apart no Number and pitch of stays in each no
 Working pressure by rules no Superheater or Steam chest; how connected to boiler no Can the superheater be shut off and the boiler worked separately no Diameter no Length no Thickness of shell plates no Material no Description of longitudinal joint no Diam. of rivet holes no Pitch of rivets no Working pressure of shell by rules no Diameter of flue no Material of flue plates no Thickness no
 If stiffened with rings no Distance between rings no Working pressure by rules no End plates: Thickness no How stayed no
 Working pressure of end plates no Area of safety valves to superheater no Are they fitted with easing gear no

VERTICAL DONKEY BOILER— Manufacturers of Steel

No.	Description		When made	Where fixed
Made at	By whom made			
Working pressure	tested by hydraulic pressure to	Date of test	No. of Certificate	Fire grate area
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:— As per rule and one cast iron propeller, one set of fire bars each boiler and one set of safety valve springs.

for **AKERS MEK. VERKSTED**
The foregoing is a correct description,

H. Stüb Manufacturer.

Dates of Survey while building: During progress of work in shops — 4/10 - 10/10 - 29/10 - 5/11 - 12/11 - 18/11 - 26/11 - 28/11 - 10/12 - 18/12 1913. 45/1 - 22/1 - 19/2 - 27/2 - 20/3 - 29/4 1914.
During erection on board vessel — 9/6 - 10/6 - 19/6 - 20/6 - 26/6 - 27/6 - 30/6 - 1/7 - 2/7 1914.
Total No. of visits 25

Is the approved plan of main boiler forwarded herewith yes

Dates of Examination of principal parts—Cylinders 15 & 22/14 Slides 22 & 30/14 Covers 30/1 Pistons 3/2 Rods 23/2
Connecting rods 23/2 Crank shaft 6/3 Thrust shaft 18/3 Tunnel shafts 24/3 - 18/4 Screw shaft 29/4 Propeller 29.4
Stern tube 24.4.14 Steam pipes tested 19-6-14 Engine and boiler seatings 19-6-14 Engines holding down bolts 19-6-14
Completion of pumping arrangements 27-6-14 Boilers fixed 27-6-14 Engines tried under steam 27-6-14
Main boiler safety valves adjusted 27-6-14 Thickness of adjusting washers ✓
Material of Crank shaft *steel* Identification Mark on Do. ³⁴¹⁰ 10-13 A.T.P. Material of Thrust shaft *steel* Identification Mark on Do. ³⁴³⁶ 11-12 A.T.P.
Material of Tunnel shafts *steel* Identification Marks on Do. ³⁴³⁶ 11-12 A.T.P. Material of Screw shafts *steel* Identification Marks on Do. ³⁴⁴⁶ 11-12 C.A.B.
Material of Steam Pipes *copper* ✓ Test pressure 360 lbs. ✓

General Remarks (State quality of workmanship, opinions as to class, &c. The machinery of this vessel has been built and tested in accordance with the Rules.

The boilers have been constructed in accordance with the approved plan. The steel material used in the construction of these boilers have been manufactured at approved works and tested by the Society's Surveyors as per Rule.

The boilers have been tested by hydraulic pressure to 360 lbs and found tight. Boilers examined under steam pressure and the safety valves set to 180 lbs per square inch. The machinery have been tried under steam and found to work satisfactory. The workmanship throughout are of the best and to our entire satisfaction. Quickacting stop valves have been fitted one to each boiler examined under steam and found to work satisfactory.

Recommend ✱ LMC 7.14 in the Register Book.

It is submitted that this vessel is eligible for THE RECORD. + LMC 7.14.

J. W. S.

The amount of Entry Fee	.. £ 2 : 0/34	When applied for,	19/14
Special	.. £ 14 : 5/35.1	When received,	23.7.14
Donkey Boiler Fee	.. £ :		
Travelling Expenses (if any)	£ :		

J. W. S.
Corland J. V. S. Ludw. C. A. Lupton
Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

Committee's Minute TUE. JUL. 21. 1914
Assigned + LMC 7.14

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

