

REPORT ON MACHINERY.

No. 26092

Received at London Office

TUE MAY 5-1914
WED. JUL. 11 1914.

Site of writing Report 1-5-1914 When handed in at Local Office 4-5-1914 Port of Sunderland
No. in Survey held at Sunderland Date, First Survey May 9th (Ant.) Last Survey June 13th 1914 (Ant.)
Reg. Book. 3rd Nov 1913 (Number of Visits 3145=36 Gross 812 Tons Net 603)

on the new steel s/s VALBORG
Master A. Jensen Built at Antwerp By whom built Antwerp Engineering Co Ltd (Antw 70) When built 1914
Engines made at Sunderland By whom made Macboll & Pollock Ltd (Nº 250) when made 1914
Boilers made at Sunderland By whom made Macboll & Pollock Ltd (Nº 250) when made 1914
Registered Horse Power 81 Owners J. Lauritzen Port belonging to Esbjerg
Nom. Horse Power as per Section 28 81 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
Dia. of Cylinders 13", 21", 35" Length of Stroke 27 Revs. per minute 100 Dia. of Screw shaft 8.55" Material of screw shaft Steel
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
Is 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 2'-11"
Dia. of Tunnel shaft 6.7" Dia. of Crank shaft journals 7.09" Dia. of Crank pin 7.4" Size of Crank webs 10 7/8 x 4 7/8 Dia. of thrust shaft under
collars 7.4" Dia. of screw 18'-9" Pitch of Screw 10'-0" No. of Blades 4 State whether moveable No Total surface 42.5 ft²
No. of Feed pumps 2 Diameter of ditto 2.4" Stroke 14" Can one be overhauled while the other is at work yes
No. of Bilge pumps 2 Diameter of ditto 2.4" Stroke 14" Can one be overhauled while the other is at work yes
No. of Donkey Engines Two Sizes of Pumps End 5 1/4 x 3 1/2 x 5 Ballast 6 x 7 x 7 No. and size of Suctions connected to both Bilge and Donkey pumps
In Engine Room Three of 2" In Holds, &c. Forehold 2 of 2 Aft Hold 2 of 2 1/4 of 2 1/2 in Kell.
No. of Bilge Injections One size 3" Connected to condenser, or to circulating pump Yes Is a separate Donkey Suction fitted in Engine room & size Yes, 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 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
Dates of examination of completion of fitting of Sea Connections 9-5-14 of Stern Tube 9-5-14 Screw shaft and Propeller 9-5-14
Is the Screw Shaft Tunnel watertight Yes Is it fitted with a watertight door Yes worked from Main deck level

BOILERS, &c.—(Letter for record S) Manufacturers of Steel John Spencer & Sons Ltd
Total Heating Surface of Boilers 1410 ft² Is Forced Draft fitted No No. and Description of Boilers Two single ended marine
Working Pressure 180 Tested by hydraulic pressure to 360 Date of test 16-3-14 & 22-4-14 No. of Certificate 3199 & 3208
Can each boiler be worked separately Yes Area of fire grate in each boiler 22 ft² No. and Description of Safety Valves to
each boiler two direct spring Area of each valve 3.970" 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 7" Mean dia. of boilers 9'-6" Length 9'-6" Material of shell plates Steel
Thickness 2 1/2" Range of tensile strength 28-32 Are the shell plates welded or flanged No Descrip. of riveting: cir. seams WR
long. seams WBSTR Diameter of rivet holes in long. seams 1" Pitch of rivets 5.05" Lap of plates or width of butt straps 10 3/8"
Per centages of strength of longitudinal joint
rivets 82.3 Working pressure of shell by rules 181 Size of manhole in shell 16 x 12"
plate 80.19
Size of compensating ring 26 x 28 x 2 1/2 No. and Description of Furnaces in each boiler 2 Weighlon 6m Material Steel Outside diameter 2'-9 3/4"
Length of plain part top 3 1/2" Thickness of plates bottom 3 1/2" Description of longitudinal joint welded No. of strengthening rings ✓
Working pressure of furnace by the rules 223 Combustion chamber plates: Material Steel Thickness: Sides 7/8" Back 3/2" Top 5/8" Bottom 13/16"
Pitch of stays to ditto: Sides 7 1/8 x 8 1/2" Back 9 1/8 x 8 1/2" Top 10 x 7" If stays are fitted with nuts or riveted heads nuts in use Working pressure by rules 181 End plates in steam space:
Material of stays Steel Diameter at smallest part 1 1/4" Area supported by each stay 75.40" Working pressure by rules 183 Material of stays Steel
Diameter at smallest part 4 1/2" Area supported by each stay 228.0" Working pressure by rules 187 Material of Front plates at bottom Steel
Thickness 3 1/2" Material of Lower back plate Steel Thickness 3 1/2" Greatest pitch of stays 13 x 8 1/2" Working pressure of plate by rules 274
Diameter of tubes 3 1/4" Pitch of tubes 4 1/2 x 4 3/8" Material of tube plates Steel Thickness: Front 3 1/2" Back 13/16" Mean pitch of stays 11 1/8"
Pitch across wide water spaces 13 1/2 x 10" Working pressures by rules 184 Girders to Chamber tops: Material Steel Depth and
thickness of girder at centre 20 1/4 x 1 1/8" Length as per rule 1-11 1/2" Distance apart 10" Number and pitch of stays in each 20 x 7"
Working pressure by rules 187 Superheater of Steam chest; how connected to boiler independent Can the superheater be shut off and the boiler worked
separately Yes Diameter of tubes 2 1/2" Thickness of shell plates 3 1/2" Material Steel 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 1.770 Are they fitted with easing gear Yes

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 Safety
Valves	No. of Safety Valves	Area of each	Pressure to which they are adjusted	Date of adjustment	
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	Per centage of strength of joint	Rivets Plates
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:— 1 Propeller, 2 Top & 2 bottom end bolts & nuts, 2 main bearing bolts & nuts, 1 set coupling bolts, 1 set feed & bilge pump valves, 1 set piston springs, various sizes of bolts & nuts & rod iron, 1 feed check valve, 6 pump flanges, 6 boiler tubes, 12 condenser tubes & ferrules, 2 safety valve springs, 1 live. p.p. rod, 1 slide valve spindle, 1 set live & live. p.p. valves, spare jacking & 1 set fire bars.

The foregoing is a correct description,

MAO COLL & POLLOCK LTD.

Manufacturer.

Dates of Survey while building	During progress of work in shop	Managing Director.	1913. Nov. 3. 11. 12. 18. 24. Dec. 11. 22. 23. Jan. 16. 21. 22. 26. Feb. 9. 13. 17. 18. 19.
	During erection on board vessel		24. 27. Mar. 3. 13. 16. 19. 24. 26. Apr. 1. 7. 16. 22. 24. 29. May 9, 30. June 4, 6, 13.
	Total No. of visits		31 + 5 = 36

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

Dates of Examination of principal parts	Cylinders	16-1-14	Slides	24-3-14	Covers	22-4-14	Pistons	9-2-14	Rods	19-3-14	
Connecting rods	27-2-14	Crank shaft	10-2-13	Thrust shaft	22-4-14	Tunnel shafts	22-4-14	Screw shaft	7-4-14	Propeller	26-3-14
Stern tube	7-4-14	Steam pipes tested	35 * 8.11.	Engine and boiler seatings	30-5-14	Engines holding down bolts	30-5-14				
Completion of pumping arrangements	13-6-14	Boilers fixed	30-5-14	Engines tried under steam	13-6-14						
Main boiler safety valves adjusted	13-6-14	Thickness of adjusting washers	P. P & S 5/16" S. P. 5/16" S. 1/4"								
Material of Crank shaft	Steel	Identification Mark on Do.	3500ATP	Material of Thrust shaft	Steel	Identification Mark on Do.	9274KH.				
Material of Tunnel shafts	Steel	Identification Marks on Do.	9306KH.	Material of Screw shafts	Steel	Identification Marks on Do.	9206KH.				
Material of Steam Pipes	Steel, lapwelded.	Test pressure	540 lbs.								

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

The materials and workmanship are good

The machinery has been made under special survey and forwarded to Antwerp to be fitted in the vessel. Surveyors advised at that port.

The Engines & boilers have now been fitted on board in a satisfactory manner & together with the Auxiliary Machinery tried under working conditions and found good and eligible, in my opinion, to have the record of + L.M.C. 6-14.

It is submitted that this vessel is eligible for THE RECORD. + L.M.C 6.14.

The amount of Entry Fee	£ 1	TOTAL	£ 1
Special	£ 2	When applied for.	£ 1
Donkey Boiler Fee	£ 1	When received.	£ 1
Travelling Expenses (if any)	£ 1		

Committee's Minute *FRI. JUL. 3-1914*
Assigned *+ L.M.C. 6.14*

MACHINERY CERTIFICATE WRITTEN.



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