

REPORT ON MACHINERY.

Received at London Office

Date of writing Report 19 When handed in at Local Office 23. 8. 13 Port of Sunderland

No. in Survey held at Sunderland Date, First Survey 26. 11. 12 Last Survey 20 Aug 1913
 Reg. Book. on the Steel S S "Scaterini Matsouki" (Number of Vents 49) Gross 3115

Master J. James Built at Sunderland By whom built Priestman & Co. Ltd (231 2/3) Net 1900
 When built 1913

Engines made at Sunderland By whom made North Eastern Marine Eng. Co. Ltd when made 1913
 Boilers made at do By whom made do (2094) when made 1913

Registered Horse Power Owners Anglo-Romanian S.S. Co. Ltd. Port belonging to Swansea

Nom. Horse Power as per Section 28 302 Is Refrigerating Machinery fitted for cargo purposes no Is Electric Light fitted no

ENGINES, &c.—Description of Engines Triple expansion No. of Cylinders Three No. of Cranks Three

Dia. of Cylinders 23 1/2 x 39 x 64 Length of Stroke 42 Revs. per minute 68 Dia. of Screw shaft as per rule 12.19 Material of screw shaft Steel
 as fitted 13 1/2

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 ✓ 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 If two liners are fitted, is the shaft lapped or protected between the liners Length of stern bush 5'-0"

Dia. of Tunnel shaft as per rule 11.66 Dia. of Crank shaft journals as per rule 12.24 Dia. of Crank pin 12 3/8 Size of Crank webs 18 1/2 x 4 1/2 Dia. of thrust shaft under collars 12 3/8 Dia. of screw 16.3 Pitch of Screw 16'-6" No. of Blades 4 State whether moveable no Total surface 85 sq ft

No. of Feed pumps Two Diameter of ditto 3" Stroke 24" Can one be overhauled while the other is at work yes
 No. of Bilge pumps Two Diameter of ditto 4" Stroke 24" Can one be overhauled while the other is at work yes

No. of Donkey Engines Two Sizes of Pumps Ball 9" x 11 x 10. Lead 8" x 6" x 8" No. and size of Suctions connected to both Bilge and Donkey pumps
In Engine Room Three @ 3" dia. In Holds, &c. 2 @ 3" dia. For main hold 2 @ 3" dia, 2 @ 3" dia deep tanks 2 fwd & 2 aft 3" dia aft hold. 1 @ 3" Tunnel well.

No. of Bilge Injections One sizes 1 1/2" Connected to condenser, or to circulating pump no Is a separate Donkey Suction fitted in Engine room & 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 ✓

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 Hold Suctions How are they protected Wood casings

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 4-1-13 of Stern Tube 11-4-13 Screw shaft and Propeller 11-4-13

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

BOILERS, &c.—(Letter for record no) Manufacturers of Steel J. Pease & Sons Ltd.

Total Heating Surface of Boilers 4820 sq ft 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 28. 3. 13 No. of Certificate 3101

Can each boiler be worked separately yes Area of fire grate in each boiler 62 sq ft No. and Description of Safety Valves to each boiler Two spring loaded Area of each valve 4.068 sq in 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 20" Mean dia. of boilers 16'-6" Length 10'-6" Material of shell plates Steel

Thickness 1 1/4" Range of tensile strength 28 1/2 to 32 tons Are the shell plates welded or flanged no Descrip. of riveting: cir. seams D.R.
 long. seams T.R.D.B.S. Diameter of rivet holes in long. seams 1 3/8" Pitch of rivets 9 3/4" end 20 1/8"

Per centages of strength of longitudinal joint rivets 86.5 Working pressure of shell by rules 180 lbs Size of manhole in shell 16" x 12"
 plate 86.25

Size of compensating ring dished No. and Description of Furnaces in each boiler Three Corn Material Steel Outside diameter 4'-2 1/2"

Length of plain part top 3 1/2" Thickness of plates crown 3 1/2" Description of longitudinal joint weld No. of strengthening rings ✓
 bottom 2 1/2"

Working pressure of furnace by the rules 180 lbs Combustion chamber plates: Material Steel Thickness: Sides 3/4" Back 3/8" Top 1/4" Bottom 3/4"

Pitch of stays to ditto: Sides 8 3/8" x 12" Back 10 3/4" x 10 3/4" Top 8 3/8" x 12" If stays are fitted with nuts or riveted heads nuts Working pressure by rules 180 lbs

Material of stays Steel Diameter at smallest part 2.1" Area supported by each stay 100 sq in Working pressure by rules 188 lbs End plates in steam space: no

Material Steel Thickness 1 1/16" Pitch of stays 23 3/8" x 23 3/8" How are stays secured D.N. Wash Working pressure by rules 180 lbs Material of stays Steel

Diameter at smallest part 9.62" Area supported by each stay 544 sq in Working pressure by rules 184 lbs Material of Front plates at bottom Steel

Thickness 3/4" Material of Lower back plate Steel Thickness 1 1/16" Greatest pitch of stays 14 3/4" x 10 1/8" Working pressure of plate by rules 181 lbs

Diameter of tubes 3 1/4" Pitch of tubes 4 1/2" x 4 7/8" Material of tube plates Steel Thickness: Front 3/4" Back 3/4" Mean pitch of stays 10 3/8"

Pitch across wide water spaces 14 1/2" Working pressures by rules 192 lbs Girders to Chamber tops: Material Steel Depth and thickness of girder at centre 2 @ 8 3/8" x 1" Length as per rule 2'-6" Distance apart 12" Number and pitch of stays in each 2 @ 8 3/8"

Working pressure by rules 180.5 lbs Superheater or Steam chest; how connected to boiler None 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 ✓

If not, state whether, and when, one will be sent

VERTICAL DONKEY BOILER— Manufacturers of Steel

No.	Description		When made	Where made
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 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	Rivets
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 bolts & nuts for top & bottom ends of main bearings. one set coupling bolts. 1 set each of valves for Air Circulating Seeds. Ridge pumps. 1 cast iron propeller & 2 safety valve springs. Assorted bolts nuts & iron.

NORTH EASTERN MACHINE ENGINEERING CO LTD

The foregoing is a correct description,
S. T. Harrison Secy

Dates of Survey while building	During progress of work in shops	1912 Nov. 26 Dec. 5. 6. 16. 17. 20. 24 Jan. 9. 16. 17. 21. 22. 28. 29. 30. 31 Feb. 4. 7. 11. 13. 20. 24. 29. 28
	During erection on board vessel	Mar. 4. 7. 10. 11. 14. 18. 19. 28 Apr. 3. 10. 17. 22. 29 May 6. Jan 27 Jul 4. 8. 11. 14. 17. 18. 22. 23 Aug. 7. 20
	Total No. of visits	(49)

Dates of Examination of principal parts	Cylinders	3-4-13	Slides	11-3-13	Covers	4-3-13	Pistons	4-3-13	Rods	16-1-13	
Connecting rods	24-1-13	Crank shaft	19-3-13	Thrust shaft	10-4-13	Tunnel shafts	3-4-13	Screw shaft	4-4-13	Propeller	14-4-13
Stern tube	4-4-13	Steam pipes tested	14-4-13	Engine and boiler seatings	4-4-13	Engines holding down bolts	18-4-13				
Completion of pumping arrangements	22-4-13		Boilers fixed	18-4-13		Engines tried under steam	23-4-13				
Main boiler safety valves adjusted	23-4-13		Thickness of adjusting washers	Stand Bl F 1/4" A 3/16 Port Bl F 1/4" A 1/4							
Material of Crank shaft	Steel	Identification Mark on Do.	5342 P.A. 4444 J.M. 8301 K.H. 2314-5 M.B. 4531 J.M. 8519 K.H. 5559 P.A.		Material of Thrust shaft	Steel	Identification Mark on Do. 8520 K.H.				
Material of Tunnel shafts	Steel	Identification Marks on Do. 2804 M.B.		Material of Screw shafts	Steel	Identification Marks on Do. 2803 M.B.					
Material of Steam Pipes	Solid drawn copper 4 3/4" bore x 6 lbs.		Test pressure	Hooles							

General Remarks (State quality of workmanship, opinions as to class, &c.)
 The machinery of this vessel has been built under special survey, the materials and workmanship are of good quality and the hydraulic tests of the boilers proved satisfactory. The whole of the machinery has been securely fixed on board & tried under steam and air in good and safe working condition and eligible in my opinion to be classed and have passed **LM.C. 8-13** in the Register's Book.

It is submitted that
 this vessel is eligible for
THE RECORD. + LM.C.B. 13.

WJS
 25.8.15
 A.P.R.

The amount of Entry Fee	£ 3 : 0 : 0	When applied for.	23.8.13
Special	£ 35 : 2 : 0		
Donkey Boiler Fee	£ :	When received.	4/9/13
Travelling Expenses (if any)	£ :		

William D. Butler
 Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

Committee's Minute
 Assigned
 + L.M.C. 8-13
 TUE. AUG. 26, 1913



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