

REPORT ON MACHINERY

No. 62138

Received at London Office

WED APR 24 1912

Date of writing Report 10 When handed in at Local Office 10 Port of **NEWCASTLE - ON - TYNE.**

No. in Survey held at Newcastle Date, First Survey 21st Sept 1911 Last Survey 13th April 1912

Reg. Book 122 Upon the Machinery of the S.S. Olio (Number of Visits 50)

Master _____ Built at Newcastle By whom built Armstrong Whitworth & Co. Tons { Gross 5576 Net 3362 When built 1912

Engines made at Newcastle By whom made North Eastern Marine Eng. & Co when made 1912

Boilers made at _____ By whom made _____ when made _____

Registered Horse Power _____ Owners Deutsch-Amerik Petroleum Ges Port belonging to Hamburg

Nom. Horse Power as per Section 28 505 Is Refrigerating Machinery fitted for cargo purposes no Is Electric Light fitted Yes

ENGINES, &c.—Description of Engines Quadruple No. of Cylinders 4 No. of Cranks 4

Dia. of Cylinders 23", 32 1/2", 47 1/2" & 68" Length of Stroke 48" Revs. per minute 75 Dia. of Screw shaft as per rule 14 1/4" / as fitted 15 1/2" Material of screw shaft iron

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

Dia. of Tunnel shaft as per rule 12 1/4" / as fitted 13 3/8" Dia. of Crank shaft journals as per rule 13 3/8" / as fitted 13 3/8" Dia. of Crank pin 1 3/8" Size of Crank webs 2 9/16" x 8 1/2" Dia. of thrust shaft under collars 1 3/8" Dia. of screw 1 7/8" Pitch of Screw 1 1/2" No. of Blades 4 State whether moveable no Total surface 104

No. of Feed pumps 2 Weir Diameter of ditto 8" Stroke 24" Can one be overhauled while the other is at work Yes

No. of Bilge pumps 2 Diameter of ditto 4 1/2" Stroke 26" Can one be overhauled while the other is at work Yes

No. of Donkey Engines 2 Sizes of Pumps 7 1/2" x 5" x 6" & 10" x 6" x 10" No. and size of Suctions connected to both Bilge and Donkey pumps In Engine Room 5 of 3 1/2" dia & 2 of 3 1/2" in bunkers In Holds, &c. Oil cargo pumps.

No. of Bilge Injections 1 sizes 6" Connected to condenser, or to circulating pump Yes Is a separate Donkey Suction fitted in Engine room & size Yes, 2 of 3 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 sized 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 Yes

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 22/2/12 of Stern Tube 22/2/12 Screw shaft and Propeller 2/3/12

Is the Screw Shaft Tunnel watertight None Is it fitted with a watertight door No worked from Engine room

BOILERS, &c.—(Letter for record PS) Manufacturers of Steel J. Spencer & Sons

Total Heating Surface of Boilers 7377 Is Forced Draft fitted Yes No. and Description of Boilers 3 Single-ended

Working Pressure 220 lbs Tested by hydraulic pressure to 440 lbs Date of test 30th 3/12/12 No. of Certificate 82649 8265

Can each boiler be worked separately Yes Area of fire grate in each boiler 54.4 No. and Description of Safety Valves to each boiler 2 direct spring Area of each valve 11.04 Pressure to which they are adjusted 225 lbs Are they fitted with easing gear Yes

Smallest distance between boilers or uptakes and bunkers or woodwork 1'-10 1/2" Mean dia. of boilers 15'-0" Length 12'-0" Material of shell plates steel

Thickness 1 1/2" Range of tensile strength 28 3/4-32 tons Are the shell plates welded or flanged no Descrip. of riveting: cir. seams d.r. lap long. seams Z.r. d. butts Diameter of rivet holes in long. seams 1 1/2" Pitch of rivets 10" Lap of plates or width of butt straps 21 3/4"

Per centages of strength of longitudinal joint rivets 87.6 plate 85.0 Working pressure of shell by rules 234.2 lbs Size of manhole in shell 16" x 12"

Size of compensating ring flanged No. and Description of Furnaces in each boiler 3 suspension Material steel Outside diameter 46"

Length of plain part top Yes bottom Yes Thickness of plates crown 1 1/16" bottom 1 1/16" Description of longitudinal joint welded No. of strengthening rings Yes

Working pressure of furnace by the rules 246 lbs Combustion chamber plates: Material steel Thickness: Sides 2 3/32" Back 2 3/32" Top 2 3/32" Bottom 1 1/16"

Pitch of stays to ditto: Sides 8" x 8" Back 8" x 8" Top 8" x 8" If stays are fitted with nuts or riveted heads nuts Working pressure by rules 254 lbs

Material of stays steel Diameter at smallest part 1 7/8" Area supported by each stay 64 Working pressure by rules 243 lbs End plates in steam space: Material steel Thickness 1 1/32" Pitch of stays 21" x 15 1/4" How are stays secured d. nuts & w. Working pressure by rules 224 Material of stays steel

Diameter at smallest part 8.29 Area supported by each stay 320.25 Working pressure by rules 268 lbs Material of Front plates at bottom steel

Thickness 1 1/16" Material of Lower back plate steel Thickness 1 1/32" Greatest pitch of stays 16" x 8" Working pressure of plate by rules 230 lbs

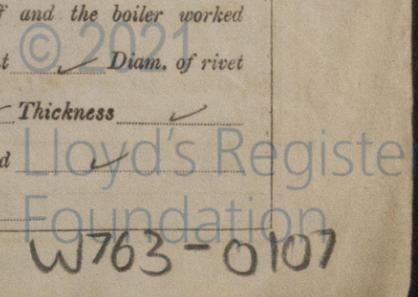
Diameter of tubes 2 1/2" Pitch of tubes 3 3/4" x 3 3/4" Material of tube plates steel Thickness: Front 1 1/16" Back 1 3/16" Mean pitch of stays 7 1/2" x 7 1/2"

Pitch across wide water spaces 14 1/2" Working pressures by rules 220 lbs Girders to Chamber tops: Material steel Depth and thickness of girder at centre 9 3/8" x 2" Length as per rule 36" Distance apart 8" Number and pitch of stays in each 3 of 8"

Working pressure by rules 222 lbs Superheater or Steam chest; how connected to boiler none Can the superheater be shut off and the boiler worked separately Yes Diameter Yes Length Yes Thickness of shell plates Yes Material Yes Description of longitudinal joint Yes Diam. of rivet holes Yes Pitch of rivets Yes Working pressure of shell by rules Yes Diameter of flue Yes Material of flue plates Yes Thickness Yes

If stiffened with rings Yes Distance between rings Yes Working pressure by rules Yes End plates: Thickness Yes How stayed Yes

Working pressure of end plates Yes Area of safety valves to superheater Yes 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	
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:— 2 top end & 2 bottom end bolts, 2 main bearing bolts, 1 set of coupling bolts, 1 set of feed & bilge pump valves, a quantity of bolts nuts & assorted iron; 1 propeller shaft, 1 propeller valve spindle & eccentric strap, air & circulating pump rods & minor parts.

The foregoing is a correct description,
NORTH EASTERN MARINE ENGINEERING Co., LTD.

Manufacturer. J. J. Morrison 1911

Dates of Survey while building	During progress of work in shops -	Secretary.	1911	1912
			Sep. 21-22. Oct. 3-4. 30. Nov. 8-13. 17. 23-24. 27. 28-29. Dec. 4-7. 8-11. 12-13. 19-21. 27-28. Jan. 4-9. 13-17. 18-29. 30-31. Feb. 1-6. 8-12. 14-17. 19-22. 27-29. Mar. 5-6. 8-19. 20-28. Apr. 2-11-13.	50

Total No. of visits 50 Is the approved plan of main boiler forwarded herewith Yes

Dates of Examination of principal parts—Cylinders 1/2/12 Slides 29/2/12 Covers 18/1/12 Pistons 17/1/12 Rods 9/1/12

Connecting rods 17/1/11 Crank shaft 19/12/11 Thrust shaft 8/12/11 Tunnel shafts ✓ Screw shaft 27/4/11 Propeller 14/2/12

Stern tube 28/12/11 Steam pipes tested 26/2/12 Engine and boiler seatings 5/3/12 Engines holding down bolts 11/4/12

Completion of pumping arrangements 13/4/12 Boilers fixed 11/4/12 Engines tried under steam 13/4/12

Main boiler safety valves adjusted 13/4/12 Thickness of adjusting washers PP 3/8" S 3/8" S.P. 5/16" S 5/16" Forward P 1/2" S 5/16"

Material of Crank shaft Steel Identification Mark on Do. 4/1/12 Material of Thrust shaft Steel Identification Mark on Do. 11/12/11

Material of Tunnel shafts none Identification Marks on Do. ✓ Material of Screw shafts Iron Identification Marks on Do. 4/12/11

Material of Steam Pipes Lap welded steel Test pressure 660 lbs

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

The machinery of this vessel has been built under special survey, the materials used are good, and the workmanship is satisfactory, it has been properly fitted on board and secured, and the engines have been tried under steam.

In my opinion the vessel is eligible to have the record of **L.M.C. 4.12.**

It is submitted that this vessel is eligible for THE RECORD. **L.M.C. 4.12**

F.D.

ARSL

J.M.
25/4/12

The amount of Entry Fee .. £	3	When applied for,	APR 23 1912
Special	45	When received,	27.4.12
Donkey Boiler Fee	5		
Travelling Expenses (if any) £			

Charles Cooper
 Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

Committee's Minute

FRI. APR. 26. 1912

Assigned

Thome 4.12

FD



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NEWCASTLE ON TYNE

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