

REPORT ON MACHINERY.

No. 22914

THUR. 27 SEP 1906

Port of Sunderland

Received at London Office

No. in Survey held at Sunderland Date, first Survey 25th May Last Survey Aug: 14th 1906

Reg. Book. on the Steel Screw Steamer "ASGARD" (Number of Visits 20)

Master H. G. Rieck Built at Newcastle By whom built Northumberland Ship Co. Ltd. Tons { Gross 4023 Net 2762 When built 1906

Engines made at Sunderland By whom made Richardsons, Westgarth & Co. Ltd. when made 1906

Boilers made at Sunderland By whom made Richardsons, Westgarth & Co. Ltd. when made 1906

Registered Horse Power 342 Owners Midgard Deutsche Seefahrts Akties Port belonging to Nordenham

Nom. Horse Power as per Section 28 342 Is Refrigerating Machinery fitted for cargo purposes no Is Electric Light fitted no

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

Dia. of Cylinders 25-41-69 Length of Stroke 48 Revs. per minute 65 Dia. of Screw shaft as per rule 15 Material of screw shaft iron

Is the screw shaft fitted with a continuous liner the whole length of the stern tube no 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 no 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 5-1

Dia. of Tunnel shaft as per rule 12.69 Dia. of Crank shaft journals as per rule 13.33 Dia. of Crank pin 14 Size of Crank webs 20x8 1/2 Dia. of thrust shaft under collars 14 1/2 Dia. of screw 14-6 Pitch of Screw 14-6 No. of Blades four State whether moveable no Total surface 91 sq ft

No. of Feed pumps two Diameter of ditto 3 3/4 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 11x10 and 12x11 1/2 No. and size of Suctions connected to both Bilge and Donkey pumps

In Engine Room four 3 1/2 In Holds, &c. 2 in each of 3 1/2

No. of Bilge Injections one size 5 Connected to condenser, or to circulating pump no Is a separate Donkey Suction fitted in Engine room & size yes 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

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 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 20/7 of Stern Tube 2/8 8/8 Screw shaft and Propeller 8/8

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 John Spencer & Co. Ltd. & Leeds Forge Co. Ltd.

Total Heating Surface of Boilers 5940 sq ft Is Forced Draft fitted no No. and Description of Boilers Three single ended, type "Muller"

Working Pressure 180 lbs Tested by hydraulic pressure to 360 lbs Date of test 26/4/06 No. of Certificate 2509

Can each boiler be worked separately yes Area of fire grate in each boiler 50 sq ft No. and Description of Safety Valves to each boiler two direct spring Area of each valve 9.69 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 36 Mean dia. of boilers 14-0 Length 10-9 Material of shell plates steel

Thickness 1 1/2 Range of tensile strength 28 1/2 to 32 tons Are the shell plates welded or flanged no Descrip. of riveting: cir. seams butt & TK

long. seams 5/16-TR Diameter of rivet holes in long. seams 1 1/2 Pitch of rivets 8 Lap of plates or width of butt straps 16

Per centages of strength of longitudinal joint rivets 93.4 Working pressure of shell by rules 184 5/8 Size of manhole in shell end 16x12

Size of compensating ring flange No. and Description of Furnaces in each boiler three, suspension Material steel Outside diameter 43 1/4

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

Working pressure of furnace by the rules 189 lbs Combustion chamber plates: Material steel Thickness: Sides 5/8 Back 5/8 Top 5/8 Bottom 3/4

Pitch of stays to ditto: Sides 8x8 Back 8x8 Top 4 1/2 x 8 If stays are fitted with nuts or riveted heads no Working pressure by rules 211 lbs

Material of stays steel Diameter at smallest part 1 3/8 Area supported by each stay 60 x 92 Working pressure by rules 187 lbs End plates in steam space:

Material steel Thickness 1 1/2 Pitch of stays 15x18 How are stays secured S.N. Working pressure by rules 206 lbs Material of stays steel

Diameter at smallest part 2.8 Area supported by each stay 240 Working pressure by rules 225 lbs Material of Front plates at bottom steel

Thickness 3/4 Material of Lower back plate steel Thickness 3/4 Greatest pitch of stays 8x15 Working pressure of plate by rules 269 lbs

Diameter of tubes 3 1/4 Pitch of tubes 4 1/2 x 4 1/2 Material of tube plates steel Thickness: Front 3/4 Back 3/4 Mean pitch of stays 9 1/2

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 8 1/2 x 1 1/2 Length as per rule 28 5/8 Distance apart 4 1/2 Number and pitch of stays in each two 8

Working pressure by rules 242 lbs 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 _____

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 _____ Stayed by _____

Diameter of uptake _____ Thickness of uptake plates _____ Thickness of water tubes _____ Dates of survey _____

SPARE GEAR. State the articles supplied:— Propeller & propeller shaft, two each top end, bottom end & main bearing bolts & nuts, one set of sampling bolts & nuts. 1/2 set each air & circulating pump valves, 4 safety valve springs, one top end brass, one crank bearing two pump links, one air pump rod, 1 H.P. valve spindle, 1 M.P. valve spindle, assorted bolts and nuts.

The foregoing is a correct description, **RICHARDSONS, WESTGARTH & CO., LTD**

Manufacturer: Frederic S. Russell ASSISTANT MANAGER

Dates of Survey while building: During progress of work in shops— 1906— May 25, 28, 30, June 8, 11, 13, 15, 19, 22, 25, 29, July 5, 10, 13, 20, 26, 27, Aug: 2, 10, 14, 20

During erection on board vessel —

Total No. of visits _____ Is the approved plan of main boiler forwarded herewith yes.

Dates of Examination of principal parts—Cylinders 8/11, 15, 22, 27 Slides 20/7 Covers 5/7 20/7 Pistons 15/6 Rods 5/6 11/6 5/7

Connecting rods 22/6 13/7 Crank shaft Hardy Thrust shaft 10/7 13/7 Tunnel shafts 20/7 Screw shaft 27/7 2/8 14/8 Propeller _____

Stern tube 20/7 Steam pipes tested 10/8 14/8 Engine and boiler seatings 2/8 Engines holding down bolts 8/8

Completion of pumping arrangements Sept 6 Boilers fixed 8/8 Engines tried under steam 17/8

Main boiler safety valves adjusted 17/8 Thickness of adjusting washers 3/4 1/2 3/8 2/8 2/6 2/6 2/6 2/6

Material of Crank shaft steel Identification Mark on Do. LLOYDS 941 AF Material of Thrust shaft Steel Identification Mark on Do. 333 B RMC

Material of Tunnel shafts steel Identification Marks on Do. 3578 3579 3580 3581 3582 Material of Screw shafts Iron Identification Marks on Do. 334 B 337 B RMC RWC

Material of Steam Pipes double drum Copper, 7/8 bore dia. 5 1/2 Test pressure 400 lbs.

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

The Machinery of this vessel has been constructed under special survey, the material & workmanship sound & good, the boiler and steam pipes have been tested by hydraulic pressure in accordance with the Rules, the machinery worked satisfactorily at the surveys & the safety valves have been adjusted under steam to their working pressure.

This vessel is eligible in our opinion to have the notation L.M.C. 8.06 in the Register Book

It is submitted that this vessel is eligible for **THE RECORD** L.M.C. 8.06

The amount of Entry Fee... £ 3 : : When applied for, 25.8.1906

Special ... £ 38. 12 : : When received, 27.9.06

Donkey Boiler Fee ... £ : : R. W. Coombes

Travelling Expenses (if any) £ : : 27.9.06

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

Committee's Minute **FRI. 28 SEP 1906**

Assigned L.M.C. 8.06

MACHINERY CERTIFICATE WRITTEN.

Certificate (if required) to be sent to the Registrar of Shipping

