

REPORT ON MACHINERY.

No. 22914

THUR. 27 SEP 1906

Port of Sunderland

Received at London Office

No. in Survey held at Sunderland
Reg. Book.Date, first Survey 25th MayLast Survey Aug: 14th 1906(Number of Visits 20)on the Steel Screw Steamer "ASGARD"Master H. G. RieckBuilt at NewcastleBy whom built Northumbrian S.S. Co. Ltd.Tons { Gross 4022
Net 2762
When built 1906Engines made at SunderlandBy whom made Richardsons, Westgarth & Co. Ltd.when made 1906Boilers made at SunderlandBy whom made Richardsons, Westgarth & Co. Ltd.when made 1906

Registered Horse Power

Owners Midgard Deutsche SeefahrtsgesellschaftPort belonging to NordenhamNom. Horse Power as per Section 28 342Is Refrigerating Machinery fitted for cargo purposes no

Is Electric Light fitted

ENGINES, &c.—Description of Engines

Triple Expansion, InvertedNo. of Cylinders ThreeNo. of Cranks ThreeDia. of Cylinders 25-41-69Length of Stroke 48Revs. per minute 65

Dia. of Screw shaft

as per rule 15

Material of

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 —

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 noLength of stern bush 5-1

Dia. of Tunnel shaft

as per rule 12.69as fitted 13.33

Dia. of Crank shaft journals

as per rule 13.33as fitted 14Dia. of Crank pin 14Size of Crank webs 20x8 1/2

Dia. of thrust shaft under

collars 14 1/2Dia. of screw 14-6Pitch of Screw 14-6No. of Blades fourState whether moveable noTotal surface 91 ftNo. of Feed pumps TwoDiameter of ditto 3 3/4Stroke 24Can one be overhauled while the other is at work yesNo. of Bilge pumps TwoDiameter of ditto 4Stroke 24Can one be overhauled while the other is at work yesNo. of Donkey Engines TwoSizes of Pumps 11x10 and 12x11 1/2

No. and size of Suctions connected to both Bilge and Donkey pumps

In Engine Room four 3 1/2In Holds, &c. 2 in each of 3 1/2tunnel well 2 1/2No. of Bilge Injections one size 5Connected to condenser, or to circulating pump noIs a separate Donkey Suction fitted in Engine room & size yes 4Are all the bilge suction pipes fitted with roses yesAre the roses in Engine room always accessible yesAre the sluices on Engine room bulkheads always accessible noAre all connections with the sea direct on the skin of the ship yesAre they Valves or Cocks bothAre they fixed sufficiently high on the ship's side to be seen without lifting the stokehold plates yesAre the Discharge Pipes above or below the deep water line aboveAre they each fitted with a Discharge Valve always accessible on the plating of the vessel yesAre the Blow Off Cocks fitted with a spigot and brass covering plate yesWhat pipes are carried through the bunkers noneHow are they protected —Are all Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times yesAre the Bilge Suction Pipes, Cocks, and Valves arranged so as to prevent any communication between the sea and the bilges yesDates of examination of completion of fitting of Sea Connections 20/7of Stern Tube 2/8 8/8Screw shaft and Propeller 8/8Is the Screw Shaft Tunnel watertight yesIs it fitted with a watertight door yesworked from Top platformBOILERS, &c.—(Letter for record S)Manufacturers of Steel John Spencer & Co. Ltd., LeedsForge & Co. Ltd.Total Heating Surface of Boilers 5940 ftIs Forced Draft fitted noNo. and Description of Boilers Three single ended, cyl. must.Working Pressure 180 lbTested by hydraulic pressure to 360 lbDate of test 26/4/06No. of Certificate 2509Can each boiler be worked separately yesArea of fire grate in each boiler 50 ft

No. and Description of Safety Valves to

each boiler Two direct springArea of each valve 9.69Pressure to which they are adjusted 185 lbAre they fitted with easing gear yesSmallest distance between boilers or uptakes and bunkers or woodwork 36Mean dia. of boilers 14-0Length 10-9Material of shell plates steelThickness 1 1/2Range of tensile strength 28 1/2 to 32 tonAre the shell plates welded or flanged noDescrip. of riveting: cir. seams 4 1/2 x 7 1/2long. seams 5 1/2 x 7 1/2Diameter of rivet holes in long. seams 1 1/2Pitch of rivets 8Lap of plates or width of butt straps 16

Per centages of strength of longitudinal joint

rivets 93.4plate 84.76Working pressure of shell by rules 184 1/2 lbSize of manhole in shell end 16x12Size of compensating ring flangeNo. and Description of Furnaces in each boiler Three, expansionMaterial steelOutside diameter 43 1/4

Length of plain part

top —bottom —

Thickness of plates

crown 1 1/4bottom 3/4Description of longitudinal joint weldNo. of strengthening rings —Working pressure of furnace by the rules 189 lbCombustion chamber plates: Material steelThickness: Sides 5Back 5Top 5Bottom 3/4Pitch of stays to ditto: Sides 8x8Back 8x8Top 4 1/2 x 8If stays are fitted with nuts or riveted heads nutsWorking pressure by rules 211 lbMaterial of stays steelDiameter at smallest part 1 3/8 to 1 1/2Area supported by each stay 6 1/2 x 9 1/2Working pressure by rules 187 lb

End plates in steam space:

Material steelThickness 1 1/2Pitch of stays 15x18How are stays secured S.N.Working pressure by rules 206 lbMaterial of stays steelDiameter at smallest part 2-8Area supported by each stay 240Working pressure by rules 225 lbMaterial of Front plates at bottom steelThickness 3/4Material of Lower back plate steelThickness 3/4Greatest pitch of stays 8x15Working pressure of plate by rules 269 lbDiameter of tubes 3 1/4Pitch of tubes 4 1/2 x 4 1/2Material of tube plates steelThickness: Front 3/4Back 3/4Mean pitch of stays 9 1/2Pitch across wide water spaces 14 1/2Working pressures by rules 192 lbGirders to Chamber tops: Material steel

Depth and

thickness of girder at centre 8 1/2 x 1 1/2Length as per rule 28 1/2Distance apart 4 1/2Number and pitch of stays in each Two 8Working pressure by rules 242 lbSuperheater or Steam chest; how connected to boiler —

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 —

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 and 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 and bottom, one crank bearing two pump links, one air pump rod, 1 H.P. & 1 M.P. (or L.P.) spindle, assorted bolts and nuts.

The foregoing is a correct description, **RICHARDSON, 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 20

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 14/11 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 16 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 1/4 3/16 1/8 3/32 1/16 1/32 1/64

Material of Crank shaft steel Identification Mark on Do. LL0YDS 941 AF Material of Thrust shaft Steel Identification Mark on Do. 333 B RWC

Material of Tunnel shafts steel Identification Marks on Do. 3524 MK 6-06 2924 MK 7-06 3525 MK 6-06 Material of Screw shafts Iron Identification Marks on Do. 334 B RWC 337 B RWC

Material of Steam Pipes old drawn Copper, 4 1/2 bore No. 5 1/2 Test pressure 400 lb.

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 manueuvres & the safety valves have been adjusted under steam to their working pressure.

This vessel is eligible in our opinion to have the notation LMC 8.06 in the Register Book

It is submitted that this vessel is eligible for THE RECORD LMC 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 .. £ : : 55.10.06

Travelling Expenses (if any) £ : : 13.00

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

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

Assigned

MACHINERY CERTIFICATE WRITTEN.



Lloyd's Register Foundation