

REPORT ON MACHINERY.

Port of Sunderland

Received at London Office **THUR. NOV 22nd 1906**

No. in Survey held at Sunderland

Date, first Survey 12th July 1906 Last Survey 16th October 1906

Reg. Book.

on the Machinery of the Antwerp S.S. No 32. S.S. "Djoro" (Number of Visits 27)

Master Jus Hummel Built at Antwerp By whom built Antwerp Shipbuilders Co. Tons { Gross 1515 Net 1166 When built 1906

Engines made at Sunderland By whom made The N.E. Marine Engineering Co. (Ld) when made 1906

Boilers made at Sunderland By whom made The N.E. Marine Engineering Co. (Ld) when made 1906

Registered Horse Power 1475 Owners Andreas Ejersee Ejersee Port belonging to Tromsøen

Nom. Horse Power as per Section 28 1475 Is Refrigerating Machinery fitted for cargo purposes Is Electric Light fitted

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

Dia. of Cylinders 19-31-57 Length of Stroke 36 Revs. per minute 45 Dia. of Screw shaft 11.623 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 — 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 Rubber protection at ends Length of stern bush 4-0

Dia. of Tunnel shaft 9.58 Dia. of Crank shaft journals 10.06 Dia. of Crank pin 10.7 Size of Crank webs 5 1/2 x 17 1/2 Dia. of thrust shaft under collars 10.5

No. of Feed pumps Two Diameter of ditto 3 Stroke 1-4 1/2 Can one be overhauled while the other is at work yes

No. of Bilge pumps Two Diameter of ditto 3 1/2 Stroke 1-4 1/2 Can one be overhauled while the other is at work yes

No. of Donkey Engines Two Duplex Sizes of Pumps 6 x 7 x 9 and 5 x 3 x 4 1/2 No. and size of Suctions connected to both Bilge and Donkey pumps

In Engine Room Three 2 1/2 In Holds, &c. Two in each hold 2 1/2

Ballast Tank Suctions Two 2 1/2

No. of Bilge Injections One sizes 3 1/4 Connected to condenser, or to circulating pump jump Is a separate Donkey Suction fitted in Engine room & size 2 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 Yes

Are all connections with the sea direct on the skin of the ship Yes Are they Valves or Cocks valves + cocks

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 12/10/06 of Stern Tube 17/10/06 Screw shaft and Propeller 17/10/06

Is the Screw Shaft Tunnel watertight Yes Is it fitted with a watertight door Yes worked from Engine Room

BOILERS, &c.—(Letter for record 5) Manufacturers of Steel J. Spencer & Sons Ltd, & Messrs. Beighton & Co.

Total Heating Surface of Boilers 2492 Is Forced Draft fitted no No. and Description of Boilers Two, single ended, cyl. mult.

Working Pressure 180 lbs Tested by hydraulic pressure to 360 lbs Date of test 10/10/06 No. of Certificate 2532

Can each boiler be worked separately Yes Area of fire grate in each boiler 43 1/8 No. and Description of Safety Valves to each boiler Two, Spring loaded Area of each valve 397 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 18 in Mean dia. of boilers 12-4 Length 10-6 Material of shell plates steel

Thickness 1 Range of tensile strength 28 3/4 to 52 tons Are the shell plates welded or flanged no Descrip. of riveting: cir. seams 2 to 5 R

long. seams 5 BS-TR Diameter of rivet holes in long. seams 1 1/32 Pitch of rivets 4 1/8 Lap of plates or width of butt straps 15 1/4

Per centages of strength of longitudinal joint rivets 84.1 plate 85.5 Working pressure of shell by rules 180.8 lbs Size of manhole in shell end 16 x 12

Size of compensating ring flanged No. and Description of Furnaces in each boiler Two plain Material steel Outside diameter 41 1/2

Length of plain part top 6-5 1/4 bottom 5-4 Thickness of plates crown 49 bottom 64 Description of longitudinal joint Weld No. of strengthening rings —

Working pressure of furnace by the rules 183.7 lbs Combustion chamber plates: Material steel Thickness: Sides 4/16 Back 25/32 Top 4/16 Bottom 4/8

Pitch of stays to ditto: Sides 8 1/2 x 10 3/8 Back 10 1/2 x 11 1/8 Top 10 3/8 x 8 1/2 If stays are fitted with nuts or riveted heads nuts Working pressure by rules 180.2 lbs

Material of stays steel Diameter at smallest part 1 1/8 Area supported by each stay 88-117 Working pressure by rules 180.2 lbs End plates in steam space:

Material steel Thickness 1 1/4 Pitch of stays 22 1/2 x 17 3/4 How are stays secured DN + W Working pressure by rules 180.2 lbs Material of stays steel

Diameter at smallest part 3 1/4 Area supported by each stay 400 Working pressure by rules 180.2 lbs Material of Front plates at bottom steel

Thickness 13/16 Material of Lower back plate steel Thickness 15/16 Greatest pitch of stays 16 5/16 x 12 Working pressure of plate by rules 192 lbs

Diameter of tubes 3 1/4 Pitch of tubes 4 3/4 x 4 1/2 Material of tube plates steel Thickness: Front 13/16 Back 13/16 Mean pitch of stays 10 3/8

Pitch across wide water spaces 14 1/2 Working pressures by rules 215 lbs Girders to Chamber tops: Material steel Depth and thickness of girder at centre 8 1/4 x 15 1/8 Length as per rule 28 1/2 Distance apart 10 3/8 Number and pitch of stays in each Two 8 1/2

Working pressure by rules 180 lbs Superheater 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 No donkey boiler

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:— One set of connecting rod top end bolts nuts 2 bottom end bolts nuts, 2 main bearing bolts, 1 set coupling bolts, 1 set feed & bilge pump valves, one propeller, 1/3 crank shaft.

The foregoing is a correct description,

NORTH EASTERN MARINE ENGINEERING CO. LTD.

Walter Beattie Gray
Manufacturer.

Dates of Survey while building { During progress of work in shops - 1906 July 12, Aug. 9, 14, 15, 16, 20, 23, 28, 31, Sept. 5, 7, 12, 13, 15, 17, 19, 21, 25, 27, Oct. 2, 4, 5, 8, 9, 10, 11, 16.
During erection on board vessel - October 5, 12, 22, 25, 29, November 5, 7, 9, 12.
Total No. of visits 27 + 9 = 36

Is the approved plan of main boiler forwarded herewith yes
" " " donkey " " " no

Dates of Examination of principal parts—Cylinders 17/9 2/10 Slides 16/10 Covers 2/10 Pistons 8/10 Rods 12/9
Connecting rods 12/9 Crank shaft 17/9 24/10 16/10 Thrust shaft 13/9 15/9 Tunnel shafts 26/9 2/10 4/10 Screw shaft 27/9 2/10 11/10 Propeller 3/8 12/9
Stern tube 7/9 2/10 Steam pipes tested 5/11/06 Engine and boiler seatings 9/11/06 Engines holding down bolts 9/11/06
Completion of pumping arrangements 17/11/06 Boilers fixed 17/11/06 Engines tried under steam 17/11/06
Main boiler safety valves adjusted 17/11/06 Thickness of adjusting washers 5/16 7. 5/16 9.
Material of Crank shaft steel Identification Mark on Do. LLOYDS 349 D AB Material of Thrust shaft steel Identification Mark on Do. R 540 P.R. 6 H 06
Material of Tunnel shafts steel Identification Marks on Do. 1992 Material of Screw shafts iron Identification Marks on Do. LLOYDS 345 D 350 D AB AB
Material of Steam Pipes Copper Test pressure 360 lbs per sq. in.

General Remarks (State quality of workmanship, opinions as to class, &c.)
The Engines & Boilers of this vessel have been constructed under special survey, the material & workmanship sound & good & the Boilers have been subjected to hydraulic pressure in accordance with the Rules

The engines & Boilers have been fitted on board in accordance with the Rules. The safety valves have been adjusted under steam and the engines tried, the same working well—

This vessel is eligible in our opinion to have the Notation * L M C 11-06 in the Register Book.

It is submitted that this vessel is eligible for **THE RECORD** L.M.C. 11.06.

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

The amount of Entry Fee. . . £ 2 : : When applied for, _____
Special . . . £ 17 : 12 : } 10.11.06
Donkey Boiler Fee adj. Ant. £ 8 : 16 : }
Travelling Expenses (if any) £ : : }
When received, 19/11/06

TUES. NOV 27 1906

Committee's Minute

Assigned

+ L.M.C. 11.06.

MACHINERY CERTIFICATE WRITTEN.



© 2020 Lloyd's Register Foundation

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