

REPORT ON MACHINERY.

No. 49816

MUN 18 DEC 1906

Port of Newcastle

Received at London Office 19

No. in Survey held at Newcastle Date, first Survey Feb 1 Last Survey Dec 11 1905
Reg. Book. S/S "Saarnholm" (Number of Visits 40)

on the S/S "Saarnholm" Tons } Gross 1400
Net 856
Master H.M. Winkler Built at Newcastle By whom built Wood Skinner & Co Ltd When built 1905

Engines made at Newcastle By whom made N.C.M. Eng. Co Ltd when made 1905
Boilers made at " By whom made " when made 1905

Registered Horse Power 168 Owners Johnson & Jespersen Port belonging to Copenhagen
Nom. Horse Power as per Section 28 168 Is Refrigerating Machinery fitted no Is Electric Light fitted no

ENGINES, &c.—Description of Engines in CPD No. of Cylinders 3 No. of Cranks 3

Dia. of Cylinders 19 31 51 Length of Stroke 33 Revs. per minute 40 Dia. of Screw shaft 10.64 Material of screw shaft S
as per rule 9.2 as fitted 9.2 as per rule 9.6 as fitted 9.2

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 - If two liners are fitted, is the shaft lapped or protected between the liners - Length of stern bush 4 ft.

Dia. of Tunnel shaft 9.2 Dia. of Crank shaft journals 9.6 Dia. of Crank pin 9.2 Size of Crank webs 19 3/4 x 16 Dia. of thrust shaft under collars 9 3/4 Dia. of screw 13 9 Pitch of screw 13 9 No. of blades 4 State whether moveable f Total surface 58 sq

No. of Feed pumps 2 Diameter of ditto 3 Stroke 18 Can one be overhauled while the other is at work yes
No. of Bilge pumps 2 Diameter of ditto 4 Stroke 18 Can one be overhauled while the other is at work yes

No. of Donkey Engines 2 Sizes of Pumps 8 x 8 x 8 & 6 x 4 x 6 No. and size of Suctions connected to both Bilge and Donkey pumps In Engine Room 4 of 3" In Holds, &c. two of 3"

No. of bilge injections 1 sizes 4 Connected to condenser, or to circulating pump CP 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 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

When were stern tube, propeller, screw shaft, and all connections examined in dry dock New Vessel 11-12-05 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) Total Heating Surface of Boilers 2414 sq Is forced draft fitted no

No. and Description of Boilers 2 S.E. Multitubular Working Pressure 140 lb Tested by hydraulic pressure to 340 lb
Date of test Can each boiler be worked separately yes Area of fire grate in each boiler 33 sq No. and Description of safety valves to each boiler 2 Spring Area of each valve 4 9 Pressure to which they are adjusted 145 Are they fitted with easing gear yes

Smallest distance between boilers or uptakes and bunkers or woodwork 2 feet Mean dia. of boilers 12 2 Length 10 3 Material of shell plates S
Thickness 3/32 Range of tensile strength 29 to 32 tons Are they welded or flanged ends ends Descrip. of riveting: cir. seams 2.7 laps long. seams 2. butt. Stk

Diameter of rivet holes in long. seams 1 3/32 Pitch of rivets 4 5/16 Lap of plates or width of butt straps 13 3/4
Per centages of strength of longitudinal joint rivets 82.4 Working pressure of shell by rules 140 lb Size of manhole in shell dia 16 x 12
plate 82.1

Size of compensating ring flanged No. and Description of Furnaces in each boiler 2 Deagles Material S Outside diameter 41 1/2
Length of plain part top 9 bottom 9 Thickness of plates crown 2 bottom 2 Description of longitudinal joint weld No. of strengthening rings -

Working pressure of furnace by the rules 182 Combustion chamber plates: Material S Thickness: Sides 1/16 Back 1/16 Top 1/16 Bottom 1/8
Pitch of stays to ditto: Sides 9 5/8 x 9 5/8 Back 10 1/4 x 9 Top 9 5/8 x 9 5/8 If stays are fitted with nuts or riveted heads nuts Working pressure by rules 146 lb

Material of stays S Diameter at smallest part 1 5/8 Area supported by each stay 98 Working pressure by rules 143 End plates in steam space: Material S Thickness 1 3/32 Pitch of stays 18 3/8 x 18 3/8 How are stays secured 2 nuts Working pressure by rules 144 lb Material of stays S

Diameter at smallest part 2 9/16 Area supported by each stay 356 Working pressure by rules 141 Material of Front plates at bottom S
Thickness 15/16 Material of Lower back plate S Thickness 1/8 Greatest pitch of stays 14 1/2 Working pressure of plate by rules 181

Diameter of tubes 3 1/4 Pitch of tubes 4 1/2 x 4 1/2 Material of tube plates S Thickness: Front 15/16 Back 3/4 Mean pitch of stays 9
Pitch across wide water spaces 14 1/2 Working pressures by rules 141 lb Girders to Chamber tops: Material S Depth and thickness of girder at centre 8 1/2 x 12 Length as per rule 30 Distance apart 9 5/8 Number and pitch of Stays in each 2 of 9 5/8

Working pressure by rules 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

Working pressure of end plates Area of safety valves to superheater Are they fitted with easing gear



DONKEY BOILER— No. _____ Description _____

Made at _____ By whom made _____ When made _____ Where fixed _____

Working pressure tested by hydraulic pressure to _____ No. of Certificate _____ Fire grate area _____ Description of safety valves _____

No. of safety valves _____ Area of each _____ Pressure to which they are adjusted _____ 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 _____ Rivet plate _____ 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 _____

Thickness of furnace crown plates _____ Stayed by _____ Working pressure of shell by rules _____

Working pressure of furnace by rules _____ Diameter of uptake _____ Thickness of uptake plates _____ Thickness of water tubes _____

SPARE GEAR. State the articles supplied:— 1 set of connecting rod bolts and nuts, 2 main bearing bolts and nuts, 1 set of coupling bolts and nuts, 1 set of feed and bilge pump valves propeller and shaft nuts bolts and assorted iron

The foregoing is a correct description,
FOR THE NORTH EASTERN MARINE ENGINEERING CO. LD. Manufacturer.

S. F. Harrison

ASSIST. SECRETARY. *Per G.M.* 1905. Feb. 17, 20, 21. Mch. 9, 13, 21, 22, 31. Apl. 3, 20. May. 5, 9. June 6, 7, 9. July 2, 15, 17, 24

Dates of Survey while building { During progress of work in shops - - }
 { During erection on board vessel - - }
 Total No. of visits *HO*

Is the approved plan of main boiler forwarded herewith *duplicate*

General Remarks (State quality of workmanship, opinions as to class, &c. *Machinery and boilers fitted under special survey. Materials and workmanship good. Engines and boilers examined under full steam & found satisfactory. In my opinion this vessel is eligible for the record of L.M.C. 12/05 in the Register Book.*)

Letter sent to Frankfort.

It is submitted that this vessel is eligible for THE RECORD **L.M.C. 12.05**

Emd.
18.12.05.
Rs.
18.12.05

Newcastle-on-Tyne.

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

The amount of Entry Fee. . . £ *2* . . . :
 Special £ *25* . . . :
 Donkey Boiler Fee £ . . . :
 Travelling Expenses (if any) £ . . . :
 When applied for, *14 DEC 1905*
 When received, *16 Dec 1905*

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

Committee's Minute **TUES. 19 DEC 1905**

Assigned *+ Lmb 12 05*

MACHINERY CERTIFICATE WRITTEN.

