

## REPORT ON MACHINERY.

Port of *Bergen*Received at London Office *-5 JAN 1925*Date, first Survey *July 23<sup>rd</sup>* Last Survey *Decr. 20<sup>th</sup> 1924*(Number of Visits *39*)Tons *Gross 1687*  
*Net 987*When built *1924*Survey held at *Bergen*on the *Steel Screw Steamer "Kouda"*Built at *Bergen*By whom built *Bergens Mek. Værksted*Machinery made at *Bergen*By whom made *Bergens Mek. Værksted* when made *1924*Boilers made at *Bergen*By whom made *Bergens Mek. Værksted* when made *1924*Indicated Horse Power *163*Owners *Norsk Russisk Dampskibsselskab* Port belonging to *Bergen*Horse Power as per Section 28 *161*Is Electric Light fitted *Yes*

ES, &c.—Description of Engines *Triple Expansion* No. of Cylinders *3* No. of Cranks *3*  
 of Cylinders *18 3/8" x 29" x 48"* Length of Stroke *33* Revolutions per minute *75* Diameter of Screw shaft *as per rule 9 1/2" 10.62*  
 of Tunnel shaft *as per rule 8.98* Diameter of Crank shaft journals *9 1/2"* Diameter of Crank pin *9 1/2"* Size of Crank webs *6 1/2" x 18" oil gland*  
 of screw *13'-9"* Pitch of screw *14'-0"* No. of blades *4* State whether moveable *~* Total surface *540'*  
 Feed pumps *2* Diameter of ditto *3 3/8"* Stroke *19"* Can one be overhauled while the other is at work *Yes*  
 Bilge pumps *2* Diameter of ditto *3 3/8"* Stroke *19"* Can one be overhauled while the other is at work *Yes*  
 Donkey Engines *2* Sizes of Pump *One 9" x 9" x 10", One 6" x 4" x 6"* No. and size of Suctions connected to both Bilge and Donkey pumps  
 In Room *5' off. 2 1/2"* In Holds, &c. *2' off. 3", 2' off. 2 1/2" & 2' off. 2 1/4" &*  
*ruise in accordance with approved plan. See plan E Jan 29<sup>th</sup>, 23*  
 Bilge injection *One size 5"* Connected to condenser, or to circulating pump *umps a separate donkey suction fitted in Engine room & size* *Yes, 3 1/2"*  
 Are 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*  
 Connections with the sea direct on the skin of the ship *direct* Are they Valves or Cocks *Both valves & cocks*  
 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*  
 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*  
 Pipes are carried through the bunkers *none* How are they protected *—*  
 pipes, cocks, valves, and pumps in connection with the machinery and all boiler mountings accessible at all times *Yes*  
 bilge suction pipes, cocks, and valves arranged so as to prevent any communication between the sea and the bilges *Yes*  
 Fore stern tube, propeller, screw shaft, and all connections examined in dry dock *~* Is the screw shaft tunnel watertight *Yes*  
 Fitted with a watertight door *Yes* worked from *Top platform*

RS, &c.— (Letter for record *Novr. 26<sup>th</sup> 1923*) Total Heating Surface of Boilers *2720 f* Is forced draft fitted *No*  
 Description of Boilers *2 ordinary Scotch boilers* Working Pressure *180 LBS* Tested by hydraulic pressure to *360 LBS*  
 Can each boiler be worked separately *Yes* Area of fire grate in each boiler *65 f* No. and Description of safety valves to  
*2 Spring loaded* Total Area of each valves *8.6 f* Pressure to which they are adjusted *180 LBS* Are they fitted  
 ing gear *Yes* Smallest distance between boilers or uptakes and bunkers *12" & 15"* Mean diameter of boilers *12'-4 1/2"*  
 Material of shell plates *Steel* Thickness *1 1/2"* Description of riveting: circum. seams *Double* long. seams *Triple*  
 of rivet holes in long. seams *1 1/8"* Pitch of rivets *8"* ~~Top of plates or~~ width of butt straps *17 3/4"*  
 Ages of strength of longitudinal joint *85.05* Working pressure of shell by rules *200 LBS* Size of manhole in shell *12" x 16"*  
 plate *89.63* *2cf.* No. and Description of Furnaces in each boiler *2 Brightons* Material *Steel* Outside diameter *3'-9 3/4"*  
 of plain part *Corrugated* Thickness of plates *9 1/2"* Description of longitudinal joint *~* No. of strengthening rings *~*  
 g pressure of furnace by the rules *190 LBS* Combustion chamber plates: Material *Steel* Thickness: Sides *3/4"* Back *3/4"* Top *3/4" x 1 1/2"* Bottom *1"*  
 stays to ditto: Sides *10" x 10"* Back *9 3/4" x 10 1/4"* Top *10" x 11 1/2"* If stays are fitted with nuts or riveted heads *Nuts* Working pressure by rules *193 LBS*  
 of stays *Steel* Diameter at smallest part *2 1/2"* Area supported by each stay *100 f* Working pressure by rules *206 LBS* End plates in steam space:  
*Steel* Thickness *1 5/8"* Pitch of stays *17" x 24 3/8"* How are stays secured *Double Nuts* Working pressure by rules *200 LBS* Material of stays *Steel*  
 at smallest part *3 1/2"* Area supported by each stay *414 f* Working pressure by rules *200 LBS* Material of Front plates at bottom *Steel*  
 ss *1 5/8"* Material of Lower back plate *Steel* Thickness *3/8"* Greatest pitch of stays *10 3/4" x 13 1/2"* Working pressure of plate by rules  
 of tubes *3 1/2"* Pitch of tubes *4 5/8" x 4 3/4"* Material of tube plates *Steel* Thickness: Front *1 5/8"* Back *7/8"* Mean pitch of stays *9 1/4" x 14 1/4"*  
 across wide water spaces *14 1/2"* Working pressures by rules *192 LBS* Girders to Chamber tops: Material *Steel* Depth and  
 ss of girder at centre *8 1/2" x 2"* Length as per rule *2'-7 3/8"* Distance apart *11 1/2"* Number and pitch of Stays in each *2 x 10"*  
 ug pressure by rules *Smith's* Superheater *Steam alone*; how connected to boiler *Steel pipes* Can the superheater be shut off and the boiler worked  
 by *Yes* Diameter Length Thickness of shell plates Material Description of longitudinal joint Diam. of rivet  
 Pitch of rivets Working pressure of shell by rules Diameter of flue Material of flue plates Thickness  
 ned with rings Distance between rings Working pressure by rules End plates: Thickness How stayed  
 ug pressure of end plates Area of safety valves to superheater Are they fitted with easing gear



**DONKEY BOILER—** 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 \_\_\_\_\_  
 Diameter of donkey boiler \_\_\_\_\_ Length \_\_\_\_\_ Material of shell plates \_\_\_\_\_ Thickness \_\_\_\_\_  
 Description of riveting long. seams \_\_\_\_\_ Diameter of rivet holes \_\_\_\_\_ Whether punched or drilled \_\_\_\_\_ Pitch of rivets \_\_\_\_\_  
 Lap of plating \_\_\_\_\_ Per centage of strength of joint \_\_\_\_\_ Rivets \_\_\_\_\_ 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:—2 connecting rod top end bolts & nuts, 2 bottom end bolts & nuts, 2 main bearing bolts, one set of coupling bolts, one set of feed & tilge pump valves, Packing rings for H.P. slide valve pistons, one H.P. slide valve spindle, one set H.P. piston rings, one propeller, one set air pump valves, one set check valves, 50 condensers, 12 condenser tubes, 12 boiler tubes, 10 water gauge glasses, 2 pyrometers, assorted bolts & nuts & rings, 4 patent boiler tube stays, 10 screwed glands, one set of safety valve springs & levers.  
 The foregoing is a correct description.  
 Manufacturer. **OK A/S BERGENS MEKANISKE VÆRKSTED** *W. J. Wilson*

Dates of Survey { During progress of work in shops - July 23<sup>rd</sup>, Aug. 5, 13, Sept. 4, 12, 22, 23, 25, 26, Oct. 3, 6, 8, 10, 11, 13, 15, 17, 21, 23, Nov. 3, 15, 21, 24, 25.  
 { During erection on board vessel - Nov. 3, 15, 21, 29, Dec. 1, 4, 10, 11, 12, 16 & 20  
 building {  
 Total No. of visits **32**

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

The workmanship of the machinery & boilers is in all details satisfactory & the material used good & free from defects so far as could be ascertained. The steel used in the construction has been tested as required by the Rules. The boilers have been tested by hydraulic pressure to 360 LBS<sup>sq</sup> with satisfactory results. Main steam pipes - Spul - tested to 500 LBS<sup>sq</sup> & all super connections to 550 LBS<sup>sq</sup>. Safety valves have been adjusted under steam to 180 LBS<sup>sq</sup>. Machinery tried under steam & with satisfactory results. I am of the opinion that the machinery & boilers are eligible to have the notation **L.M.C. 12, 24** inserted in the Society Register Book with a working pressure of 180 LBS<sup>sq</sup>.

It is submitted that  
 this vessel is eligible for  
**THE RECORD. + LMC 12. 24. OG.**

The amount of Entry Fee.. £ 3 . : 0 . :  
 Special £ 40 : 3 . :  
 Donkey Boiler Fee .. £ 4 : 0 . :  
 Travelling Expenses (if any) £ : :  
 When applied for, Decbr. 1924.  
 When received, Decbr. 1924.

Committee's Minute

Assigned

FRI. 9 JAN 1925

+ LMC 12. 24.

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



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