

# REPORT ON MACHINERY.

Port of Bergen

Received at London Office -5 JAN 1925

No. in Survey held at

Bergen

Date, first Survey

July 23<sup>rd</sup>

Last Survey

Decr. 20<sup>th</sup> 1924

Book.

on the Steel Screw Steamer "Kouda"

(Number of Visits 39)

Gross 1687

Net 987

Built at Bergen

By whom built Bergens Mek. Værksted

When built 1924

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

Engines, &c.—Description of Engines Triple Expansion No. of Cylinders 3 No. of Cranks 3  
 No. of Cylinders 18 3/8 Length of Stroke 33 Revolutions per minute 75 Diameter of Screw shaft 9 1/2  
 Diameter of Tunnel shaft 9 1/2 Diameter of Crank shaft journals 9 1/2 Diameter of Crank pin 9 1/2 Size of Crank webs 6 1/2 x 18  
 Diameter 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  
 Engine Room 5' off, 2 1/2" In Holds, &c. 2' off, 3", 2' off, 2 1/2" & 2' off, 2 1/4"  
 Bilge injection One size 5" Connected to condenser, or to circulating pump umps a separate donkey suction fitted in Engine room & size  
 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  
 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

Boilers, &c.—(Letter for record Novbr. 20<sup>th</sup> 1924) Total Heating Surface of Boilers 2720 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 No. and Description of safety valves to  
2 Spring loaded Area of each valves 8.6 Pressure to which they are adjusted 180 LBS Are they fitted  
 with lifting 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 1/16 Description of riveting: circum. seams Double long. seams Triple  
 Diameter 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"  
 Compensating ring Mac Neil's No. and Description of Furnaces in each boiler 2 Dightons Material Steel Outside diameter 3'-9 3/4"  
 Diameter of plain part Corrugated Thickness of plates 9 1/16 Description of longitudinal joint ✓ No. of strengthening rings ✓  
 Working pressure of furnace by the rules 190 LBS Combustion chamber plates: Material Steel Thickness: Sides 3/4" Back 3/4" Top 3/4 x 1/2" 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  
 Diameter of stays Steel Diameter at smallest part 2 1/16" Area supported by each stay 100 Working pressure by rules 206 LBS End plates in steam space:  
 Thickness 1 5/16" Pitch of stays 17" x 24 3/8" How are stays secured Double Nuts Working pressure by rules 200 LBS Material of stays Steel  
 Diameter at smallest part 3 1/16" Area supported by each stay 414 Working pressure by rules 200 LBS Material of Front plates at bottom Steel  
 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  
 Pitch of tubes 3 1/2" Material of tube plates Steel Thickness: Front 15/16" Back 7/8" Mean pitch of stays 9 1/4" x 14 1/4"  
 Working pressures by rules 192 LBS Girders to Chamber tops: Material Steel Depth and  
 Distance apart 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"  
 Superheater Smith's 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  
 fitted 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

**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
No. of safety valves	Area of each	Pressure to which they are adjusted	If fitted with casing gear
			If steam from main boilers can enter the donkey boiler
Description of riveting long seams	Diameter of donkey boiler	Length	Material of shell plates
			Thickness
Lap of plating	Per centage of strength of joint	Rivets Plates	Thickness of shell crown plates
			Radius of do.
Dia. of stays	Diameter of furnace Top	Bottom	Length of furnace
			Thickness of furnace plates
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 condenser tubes, 12 condenser tubes, 12 boiler tubes, 10 water gauge glasses, 2 pyrometers, assorted bolts & nuts & rings, 4 palm boiler tube stays, screwed glands, one set of safety valve springs & levers, the foregoing is a correct description.

Manufacturer. **OR ALS BERGENS MEKANISKE VÆRKSTED** *W. J. Wilson*

Dates of Survey while building	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
	During erection on board vessel -	Nov 3, 15, 21, 24, 25, Dec 1, 4, 10, 11, 12, 16 & 20
	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 superheater 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. 06.

*JWD*  
7/1/25  
*ARR*

*S. A. Eide*

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

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

Committee's Minute

FRI. 9 JAN 1925

Assigned

+ Lmb. 12. 24

CERTIFICATE WRITTEN



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

Joints in... Are all th... posit... Are there... How are... spac