

REPORT ON MACHINERY

THU. 21 FEB. 1924

No. 487

WED. MAY. 11 1921

Received at London Office

Bremen

Date of writing Report 13th March 21 When handed in at Local Office 19 Port of Bremen

No. in Survey held at Rosslau & Hamburg Date, First Survey 24th Febr 1920 Last Survey 1st March 1921

Reg. Book. 0911 on the YARD No 16 Steel Sc. St. SCOTIA (Hose Harbts Yard No 9) Tons { Gross 2381.20
Net 1386.71

Master being Built at Copenhagen By whom built the Ballindag Shipbuilding Co When built 1923-24

Engines made at Rosslau By whom made Gebüder & Schwenberg when made 1920-21

Boilers made at Rosslau By whom made Gebüder & Schwenberg when made 1920-21

Registered Horse Power _____ Owners Acta de Forende Gulimpartorer Port belonging to Copenhagen

Nom. Horse Power as per Section 28 315 2/7 Is Refrigerating Machinery fitted for cargo purposes no Is Electric Light fitted yes

ENGINES, &c.—Description of Engines Triple Expansion No. of Cylinders 3 No. of Cranks 3

Dia. of Cylinders 560 x 900 x 1550 Length of Stroke 1000 Revs. per minute 80 Dia. of Screw shaft 216 Material of screw shaft Steel

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 yes 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 yes If two

liners are fitted, is the shaft lapped or protected between the liners yes Length of stern bush 1380 mm.

Dia. of Tunnel shaft 282 mm as per rule 279 Dia. of Crank shaft journals 295 mm as per rule 295 mm Dia. of Crank pin 295 mm Size of Crank webs 195 mm Dia. of thrust shaft under

collars 295 mm Dia. of screw 4400 mm Pitch of Screw 4520 mm No. of Blades 4 State whether moceable no Total surface 5.4 m.

No. of Feed pumps 2 Diameter of ditto 110 mm Stroke 500 mm Can one be overhauled while the other is at work yes

No. of Bilge pumps 2 Diameter of ditto 110 mm Stroke 500 mm Can one be overhauled while the other is at work yes

No. of Donkey Engines 1 Sizes of Pumps _____ No. and size of Suctions connected to both Bilge and Donkey pumps

In Engine Room yes In Holds, &c. yes

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

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 yes

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 yes How are they protected yes

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

Is the Screw Shaft Tunnel watertight yes Is it fitted with a watertight door yes worked from yes

BOILERS, &c.—(Letter for record 5) Manufacturers of Steel Deutsche Stahlwerke, Duisburg

Total Heating Surface of Boilers 422.66 sq m Is Forced Draft fitted no No. and Description of Boilers two cylindrical water-tube

Working Pressure 13 kilogramme Tested by hydraulic pressure to 26 kilogramme Date of test 1.3.21 No. of Certificate 101, 102

Can each boiler be worked separately yes Area of fire grate in each boiler 6.1 sq miten-66 # No. and Description of Safety Valves to

each boiler 2, spring loaded Area of each valve 4778 sq m Pressure to which they are adjusted yes Are they fitted with easing gear yes

Smallest distance between boilers or uptakes and bunkers or woodwork yes Mean dia. of boilers 4430 mm Length 3260 mm Material of shell plates Steel

Thickness 30.5 mm Range of tensile strength 44-51 kilog Are the shell plates welded or flanged no Descrip. of riveting: cir. seams double

long. seams quadruple Diameter of rivet holes in long. seams 34 mm Pitch of rivets 408 mm Lap of plates or width of butt straps 658 mm

Per centages of strength of longitudinal joint rivets 118% Working pressure of shell by rules 13 kilog Size of manhole in shell 300 x 400 mm

plate 85% Size of compensating ring 620 x 720 mm No. and Description of Furnaces in each boiler 3, Maximon Material Steel Outside diameter 1150 mm

Length of plain part top _____ Thickness of plates crown 14 mm Description of longitudinal joint welded No. of strengthening rings yes

bottom _____ Working pressure of furnace by the rules 13 kilog Combustion chamber plates: Material Steel Thickness: Sides 17 mm Back 17 mm Top 17 mm Bottom 21 mm

Pitch of stays to ditto: Sides 180 x 180 Back 220 x 200 Top 195 x 180 If stays are fitted with nuts or riveted heads both Working pressure by rules 13 kilog

Material of stays Steel Area at smallest part 260 sq m Area supported by each stay 40000 sq m Working pressure by rules 13.5 kilog End plates in steam space:

Material Steel Thickness 24 mm Pitch of stays 380 x 360 How are stays secured nuts & washers Working pressure by rules 14 kilog Material of stays Steel

Area at smallest part 282 sq m Area supported by each stay 37000 sq m Working pressure by rules 15 kilog Material of Front plates at bottom Steel

Thickness 23.5 mm Material of Lower back plate Steel Thickness 22 mm Greatest pitch of stays 440 mm Working pressure of plate by rules 13.6 kilog

Diameter of tubes 83 mm Pitch of tubes 110 mm Material of tube plates Steel Thickness: Front 23.5 mm Back 23 mm Mean pitch of stays 225 mm

Pitch across wide water spaces 260 mm Working pressures by rules 21.2 kilog Girders to Chamber tops: Material Steel Depth and

thickness of girder at centre 210 x 216 mm Length as per rule 737 mm Distance apart 195 mm Number and pitch of stays in each 3-190 mm

Working pressure by rules 13.3 kilog Steam dome: description of joint to shell _____ % of strength of joint yes

Diameter _____ Thickness of shell plates _____ Material _____ Description of longitudinal joint _____ Diam. of rivet holes _____

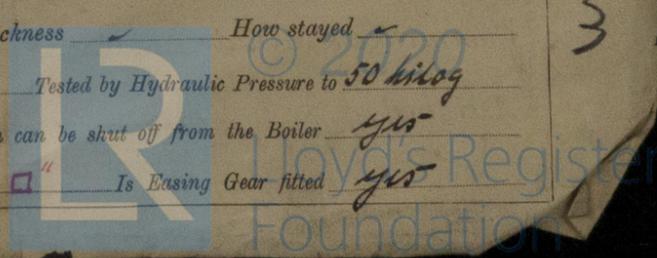
Pitch of rivets _____ Working pressure of shell by rules _____ Crown plates _____ Thickness _____ How stayed _____

SUPERHEATER. Type schmidt Date of Approval of Plan 11.8.20 Tested by Hydraulic Pressure to 50 kilog

Date of Test 14.1.21 Is a Safety Valve fitted to each Section of the Superheater which can be shut off from the Boiler yes

Diameter of Safety Valve 30 mm Pressure to which each is adjusted 185 lbs per sq " Is Easing Gear fitted yes

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IS A DONKEY BOILER FITTED?

If so, is a report now forwarded?

SPARE GEAR. State the articles supplied: -

The foregoing is a correct description,

Gebrüder Sachsenberg
Aktiengesellschaft

Manufacturer.

Dates of Survey while building { During progress of work in shops - - 1920: - Febr. 24, 25, June 9, July 21, Sep 27 Oct 11, 1921: - Jan 14, Febr 14, March 1 - April 25 }
{ During erection on board vessel - - - }
Total No. of visits 10.

Is the approved plan of main boiler forwarded herewith

" " " donkey " "

Dates of Examination of principal parts - Cylinders 24/2 & 11/10/20 Slides 11/10/20 Covers 21/7/20 Pistons 21/7/20 Rods 21/7/20

Connecting rods 9/6/20 Crank shaft 22/4/20 Thrust shaft 27/4/20 Tunnel shafts 2/19, 9/20 Screw shaft 2/19-9/20 Propeller 4/21

Stern tube 4/21 Steam pipes tested Engine and boiler seatings Engines holding down bolts 11/10/20

Completion of pumping arrangements Boilers fixed Engines tried under steam

Completion of fitting sea connections Stern tube Screw shaft and propeller

Main boiler safety valves adjusted Thickness of adjusting washers

Material of Crank shafts *M. Steel* Identification Mark on Do. *K. 20.5.20* Material of Thrust shafts *M. Steel* Identification Mark on Do. *K. 20.4.20*

Material of Tunnel shafts *M. Steel* Identification Marks on Do. *K. 20.9.9.20* Material of Screw shafts *M. Steel* Identification Marks on Do. *K. 20.9.9.9.20*

Material of Steam Pipes Test pressure

Is an installation fitted for burning oil fuel Is the flash point of the oil to be used over 150°F.

Have the requirements of Section 49 of the Rules been complied with

Is this machinery duplicate of a previous case *no* If so, state name of vessel

General Remarks (State quality of workmanship, opinions as to class, &c. *These main engines and boilers have*)

been made under special survey in accordance with the approved plan, the Secretary's letter and otherwise in conformity with the Rules.

The materials and workmanship are good.

In our opinion the vessel will be eligible for the record of +LMC subject to these engines and boilers being satisfactorily fitted on board, the remaining parts of the machinery being made and fitted as required by the Rules, the engines and boilers being tried under steam and the safety valves of the boilers and superheater being set to the approved working pressure.

5 approved plans and 2 certificates of test attached.

The amount of Entry Fee ... £ 5. 0. 0.
Special ... 4/5. £ 58. 2. 0.
Donkey Boiler Fee ... £ : :
Travelling Expenses (if any) £ 7. 18. 0.

When applied for, 23. April 21.
to be paid when received, 5/5/21

Friedrich *[Signature]* G. H. G. Kamp.
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute THE MAR 4 1921
Assigned

