

# REPORT ON MACHINERY.

No. 11043

Received at London Office

MIDDLESBROUGH

Date of writing Report 25<sup>th</sup> July 1921 When handed in at Local Office 24<sup>th</sup> July 1921 Port of MIDDLESBROUGH Date, First Survey 2<sup>nd</sup> October 20 Last Survey 20<sup>th</sup> July 1921

Survey held at Middlesbrough (Number of Vistas 133) Tons { Gross 5931 Net 3618

on the Steel screw steamer "Liss" (Richardsons Westgarth Eng<sup>rs</sup> 2234) When built 1921

Master Built at Newton Hill-on-Yess By whom built Furness Shipbuilding Co. L<sup>td</sup> when made 1921

Engines made at Middlesbrough By whom made Richardsons Westgarth Eng<sup>rs</sup> L<sup>td</sup> when made 1921

Boilers made at Middlesbrough By whom made Richardsons Westgarth Eng<sup>rs</sup> L<sup>td</sup> when made 1921

Registered Horse Power Owners Krezumasko N/S Port belonging to Christiania

Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes

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

Dia. of Cylinders 24", 45", 45" Length of Stroke 51" Revs. per minute 43 Dia. of Screw shaft as per rule 15" Material of screw shaft as fitted 1 1/2" Dia. of Thrust shaft under

the screw shaft fitted with a continuous liner the whole length of the stern tube. Is the after end of the liner made water tight

the propeller boss Yes If the liner is in more than one length are the joints burned for length 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 Length of stern bush 5'-2"

Dia. of Tunnel shaft as per rule 13.64 Dia. of Crank shaft journals as per rule 14.35 Dia. of Crank pin 15" Size of Crank webs 29" x 9 3/4" Dia. of thrust shaft under

rollers 15 1/4" Dia. of screw 14'-9" Pitch of Screw 18'-0" No. of Blades 4 State whether moveable No Total surface 100 sq ft

No. of Feed pumps 2 Diameters of ditto 8" x 10 1/2" Stroke 21" Can one be overhauled while the other is at work Yes

No. of Bilge pumps 2 Diameters of ditto 4 1/4" Stroke 24" Can one be overhauled while the other is at work Yes

No. of Donkey Engines 4 Sizes of Pumps 10 x 12 x 10 4 x 8 x 8 No. and size of Suctions connected to both Bilge and Donkey pumps

in Engine Room 5 of 3 1/2" In Holds, &c. 2 of 3 1/2" in fore hold connected to

forward Donkey pump and 2 of 4" in pump room fore peak suction

No. of Bilge Injections 8 Connected to condenser, or to circulating pump Is a separate Donkey Suction fitted in Engine room & size Yes 3 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

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

Dates of examination of completion of fitting of Sea Connections 12.4.21 of Stern Tube 26.4.21 Screw shaft and Propeller 2.6.21

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

OILERS, &c.—(Letter for record S) Manufacturers of Steel John Spencer & Sons L<sup>td</sup>

Total Heating Surface of Boilers 8580 sq ft Is Forced Draft fitted Yes No. and Description of Boilers 3 S. E. Mult<sup>l</sup> Cylindrical

Working Pressure 180 lbs Tested by hydraulic pressure to 360 lbs Date of test 24.10.20 No. of Certificate 6166

Can each boiler be worked separately Yes Area of fire grate in each boiler 62.5 sq ft No. and Description of Safety Valves to

each boiler 2 direct spring loaded Area of each valve 12.56 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 Mean dia. of boilers 15'-6 1/2" Length 12'-1 1/2" Material of shell plates Steel

Thickness 1 1/4" Range of tensile strength 28/32 tons Are the shell plates welded or flanged No Descrip. of riveting: cir. seams DR lap

long. seams V.R. M.S. Diameter of rivet holes in long. seams 1 1/4" Pitch of rivets 8 1/2" Lap of plates or width of butt straps 14 1/2"

Per centages of strength of longitudinal joint rivets 86.05 Working pressure of shell by rules 181 lbs Size of manhole in shell 16 1/2" x 19"

Size of compensating ring 30 1/2" x 29" No. and Description of Furnaces in each boiler 3 Rectangular Material Steel Outside diameter 49 3/4"

Length of plain part top Thickness of plates crown 19/32 Description of longitudinal joint Weld No. of strengthening rings

Working pressure of furnace by the rules 190 lbs Combustion chamber plates: Material Steel Thickness: Sides 19/32" Back 1 1/4" Top 19/32" Bottom 25/32"

Pitch of stays to ditto: Sides 4 1/2" x 6 5/8" Back 8 3/8" x 8" Top 4 1/2" x 6 5/8" If stays are fitted with nuts or riveted heads Wrought heads Working pressure by rules 180 lbs

Material of stays Steel Diameter at smallest part 1 3/8" Area supported by each stay 49 sq in Working pressure by rules 198 lbs End plates in steam space:

Material Steel Thickness 1 1/8" Pitch of stays 19 1/2" x 19 3/4" How are stays secured Hub & Washer Working pressure by rules 192 lbs Material of stays Steel

Diameter at smallest part 6.1" Area supported by each stay 316 sq in Working pressure by rules 206 lbs Material of Front plates at bottom Steel

Thickness 1 5/8" Material of Lower back plate Steel Thickness 1 3/4" Greatest pitch of stays 13 3/4" x 8" Working pressure of plate by rules 181 lbs

Diameter of tubes 2 1/2" Pitch of tubes 3 3/4" x 3 3/4" Material of tube plates Steel Thickness: Front 1 5/16" Back 1 3/16" Mean pitch of stays 10 3/8"

Pitch across wide water spaces 13 1/2" Working pressures by rules 185 lbs Girders to Chamber tops: Material Steel Depth and

thickness of girder at centre 8 3/4" x 1 1/2" Length as per rule 52 3/4" Distance apart 4 1/4" Number and pitch of stays in each 3 @ 6 5/8"

Working pressure by rules 198 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

