

REPORT ON MACHINERY.

Received at London Office

Date of writing Report 23/12/20 in When handed in at Local Office 31/12/20 Port of MIDDLESBRO
 No. in Survey held at Stockton-on-Tees Date, First Survey 8th Sept 1920 Last Survey 30th Dec^r 1920
 Reg. Book. on the S/S CABO ROCHE (Number of Visits 14)
 Master Built at Bilbao By whom built Soc. Espanola de Construcción Naval When built
 Engines made at Stockton By whom made Messrs Blair & Co (N^o 1945) when made 1920
 Boilers made at Stockton By whom made Messrs Blair & Co when made 1920
 Registered Horse Power _____ Owners _____ Port belonging to _____
 Nom. Horse Power as per Section 28 253 Is Refrigerating Machinery fitted for cargo purposes _____ Is Electric Light fitted _____

ENGINES, &c.—Description of Engines Tri-compound No. of Cylinders 3 No. of Cranks 3
 Dia. of Cylinders 22-36-59 Length of Stroke 39 Revs. per minute _____ Dia. of Screw shaft as per rule 12.42 Material of screw shaft by stock
 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 in one 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 tight fit If two
 liners are fitted, is the shaft lapped or protected between the liners _____ Length of stern bush 4-8"
 Dia. of Tunnel shaft as per rule 10.856 Dia. of Crank shaft journals as per rule 11.4" Dia. of Crank pin 12.4" Size of Crank webs 23.2 x 7.4 Dia. of thrust shaft under
 collars 12.4" Dia. of screw 15-6" Pitch of Screw 15-9" No. of Blades 4 State whether moveable no Total surface 68 sq
 No. of Feed pumps 2 Diameter of ditto 2 3/4" Stroke 28" Can one be overhauled while the other is at work yes
 No. of Bilge pumps 2 Diameter of ditto 4" Stroke 28" Can one be overhauled while the other is at work yes
 No. of Donkey Engines 2 Sizes of Pumps 10 x 10 5 x 8 No. and size of Suctions connected to both Bilge and Donkey pumps
 In Engine Room _____ In Holds, &c. _____
 No. of Bilge Injections 1 sizes 6" Connected to condenser, or to circulating pump _____ Is a separate Donkey Suction fitted in Engine room & size 4"
 Are all the bilge suction pipes fitted with roses _____ Are the roses in Engine room always accessible _____ Are the sluices on Engine room bulkheads always accessible
 Are all connections with the sea direct on the skin of the ship _____ Are they Valves or Cocks _____
 Are they fixed sufficiently high on the ship's side to be seen without lifting the stokehold plates _____ Are the Discharge Pipes above or below the deep water line
 Are they each fitted with a Discharge Valve always accessible on the plating of the vessel _____ Are the Blow Off Cocks fitted with a spigot and brass covering plate
 What pipes are carried through the bunkers _____ How are they protected _____
 Are all Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times _____
 Are the Bilge Suction Pipes, Cocks, and Valves arranged so as to prevent any communication between the sea and the bilges _____
 Dates of examination of completion of fitting of Sea Connections _____ of Stern Tube _____ Screw shaft and Propeller _____
 Is the Screw Shaft Tunnel watertight _____ Is it fitted with a watertight door _____ worked from _____

BOILERS, &c.—(Letter for record (S)) Manufacturers of Steel Messrs John Spencer & Sons Ltd
 Total Heating Surface of Boilers 4120 Is Forced Draft fitted _____ No. and Description of Boilers Two single ended
 Working Pressure 180 Tested by hydraulic pressure to 260 Date of test 7.12.20 No. of Certificate 6184
 Can each boiler be worked separately _____ Area of fire grate in each boiler 60.2 sq No. and Description of Safety Valves to
 each boiler 2 direct spring Area of each valve 7.07 sq Pressure to which they are adjusted _____ Are they fitted with easing gear
 Smallest distance between boilers or uptakes and bunkers or woodwork _____ External dia. of boilers 15-3" Length 10-6" Material of shell plates steel
 Thickness 1 3/32" Range of tensile strength 28-32 Are the shell plates welded or flanged no Descrip. of riveting: cir. seams 2-R-lap
 long. seams 2-B-3 Riv Diameter of rivet holes in long. seams 1 1/4" Pitch of rivets 8 1/2" Lap of plates or width of butt straps 18 5/8 + 1/2"
 Per centages of strength of longitudinal joint _____ rivets 86.4 Working pressure of shell by rules 182 Size of manhole in shell 16" x 12"
 plate 85.6 Size of compensating ring 7 1/2 x 1 3/4" No. and Description of Furnaces in each boiler 3 Morrison Material steel Outside diameter 47 1/2"
 Length of plain part _____ Thickness of plates _____ crown 3/4" Description of longitudinal joint weld No. of strengthening rings _____
 Working pressure of furnace by the rules 192 Combustion chamber plates: Material steel Thickness: Sides 1/2" Back 1/2" Top 1/2" Bottom 3/4"
 Pitch of stays to ditto: Sides 9 x 9 1/2" Back 9 1/2 x 9 1/4" Top 10 x 8 1/2" If stays are fitted with nuts or riveted heads nuts Working pressure by rules 185
 Material of stays steel Diameter at smallest part 1.99 Area supported by each stay 87.8 Working pressure by rules 204 End plates in steam space _____
 Material steel Thickness 1 1/4" Pitch of stays 18 1/2 x 20" How are stays secured nuts & washers Working pressure by rules 200 Material of stays steel
 Diameter at smallest part 7.24 Area supported by each stay 375 Working pressure by rules 201 Material of Front plates at bottom steel
 Thickness 1 1/2" Material of Lower back plate steel Thickness 1" Greatest pitch of stays 14 1/2 x 9 1/4" Working pressure of plate by rules 222
 Diameter of tubes 3 1/2" Pitch of tubes 4 1/2 x 4 7/8" Material of tube plates steel Thickness: Front 1 1/2" Back 1 1/2" Mean pitch of stays 11 5/8"
 Pitch across wide water spaces 14 1/2" Working pressures by rules 191 Girders to Chamber tops: Material steel Depth and
 thickness of girder at centre 7 3/4 x 15 1/8" Length as per rule 28 1/4" Distance apart 10" Number and pitch of stays in each 20 8 1/4"
 Working pressure by rules 189 Superheater or Steam chest; how connected to boiler none 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 _____

Plan returned
Mab.
4/1/21.

IS A DONKEY BOILER FITTED?

If so, is a report now forwarded?

SPARE GEAR. State the articles supplied:—

The foregoing is a correct description,

FOR BLAIR & CO., LIMITED

Geo. Nettleship

Manufacturer.

MANAGING DIRECTOR

Dates of Survey while building 1920. During progress of work in shops -- Sep. 17, 20, 22, 24, 27. Oct. 1, 4, 7, 8, 11, 12, 21, 22, 25, 27. Nov. 1, 2, 5, 8, 10, 12, 15, 19, 22, 23, 24, 26, 29, 30. Dec. 2, 3, 6, 7, 8, 10, 13, 15. During erection on board vessel --- 20, 21, 22, 29, 30. Total No. of visits H.H.

Is the approved plan of main boiler forwarded herewith Return for duplicate Boiler donkey " " " " " "

Dates of Examination of principal parts—Cylinders 4.11.20 Slides 10.11.20 Covers 10.11.20 Pistons 22.11.20 Rods 22.11.20

Connecting rods 26.11.20 Crank shaft 24.11.20 Thrust shaft 22.9.20 Tunnel shafts 17.9.20 12.11.20 Screw shaft 21.10.20 Propeller 21.10.20

Stern tube 18.10.20 Steam pipes tested Engine and boiler seatings Engines holding down bolts

Completion of pumping arrangements Boilers fixed Engines tried under steam

Main boiler safety valves adjusted Thickness of adjusting washers

Material of Crank shafting Steel Identification Mark on Do. 7285 Material of Thrust shaft Py Steel Identification Mark on Do. 5484-N

Material of Tunnel shafts Py Steel Identification Marks on Do. 5484-N Material of Screw shafts Py Steel Identification Marks on Do. 7285

Material of Steam Pipes Test pressure

Is an installation fitted for burning oil fuel Will be 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.)

Evaporator cast iron shell & coils tested to 50 lbs & 400 lbs respectively & marked (N° 162-50 lb, WM. 29.12.20)

These engines and boilers have been built under special survey. The materials & workmanship are sound and good. The main boilers and oil fuel settling tanks were tested by hydraulic pressure and found satisfactory.

The engines, boilers and fittings are to be forwarded to Bilbao where, it is stated, they will be fitted on board.

In my opinion the vessel will be eligible to have the notations of S.I.M.C with a date and "Fitted for oil fuel (with a date) F.P. above 150°F" when the machinery has been satisfactorily fitted on board in accordance with the Rules and examined under steam

The amount of Entry Fee ... £ 2-0-0 When applied for, Special 2/3 mdt 21-15-4 31.12.1920 1/3 Bbo ... £ 70-17-8 When received, Donkey-Boiler Fee ... £ Travelling Expenses (if any) £ 5-1-1921

Wm Morrison

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

Committee's Minute

TUE JUL 4 1922

Assigned

See Bbo. 38 6016



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