

## REPORT ON STEAM RECIPROCATING ENGINE MACHINERY.

Received at London Office JUL - 6 1938

Date of writing Report 19 When handed in at Local Office 5: 7: 1938 Port of Glasgow

No. in Survey held at 39958 on the Twin screw "Rafaela" Date, First Survey 16<sup>th</sup> June 1937 Last Survey 2<sup>nd</sup> July 1938

Req. Book (Number of Visits 60) Gross 3176.8 Tons Net 1557.7

Built at Glasgow By whom built Blythwood S. B. C. & Z<sup>2</sup> Yard No. 50 When built 1938

Engines made at Blythbank By whom made Aitchison Blair & Co. Engine No. 212 When made 1938

Boilers made at Sunfuw. By whom made Babcock & Wilcox & Co. Boiler No. 6/1327 When made 1938

Registered Horse Power - Owners Curacaoische S. M. Port belonging to Curacao

Nom. Horse Power as per Rule 322. 365 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes

Trade for which Vessel is intended Dutch West Indies

ENGINES, &c. — Description of Engines Twin screw Triple expansion Revs. per minute 170

Dia. of Cylinders 15.35" 25" 40.14" Length of Stroke 27" No. of Cylinders 3 each Eng No. of Cranks 3 each Eng

Crank shaft, dia. of journals as fitted 8 1/8" Crank pin dia. 8 1/8" Mid. length breadth 15 3/4" Thickness parallel to axis 5 1/4"

Intermediate Shafts, diameter as fitted 7 9/8" Thrust shaft, diameter at collars as fitted 8 1/8"

Tube Shafts, diameter as fitted None Screw Shaft, diameter as fitted 8 1/4" Is the shaft fitted with a continuous liner Yes

Bronze Liners, thickness in way of bushes as fitted 9/16" Thickness between bushes as fitted 19/32" Is the after end of the liner made watertight in the propeller boss Yes

If the liner is in more than one length are the junctions made by fusion through the whole thickness of the liner 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 Light fit

If two liners are fitted, is the shaft lapped or protected between the liners Yes Is an approved Oil Gland or other appliance fitted at the after end of the tube

Propeller, dia. 2900 mm Pitch 2545 mm No. of Blades 4 Material Bronze whether Moveable Solid Total Developed Surface 2.975 sq. ft.

Feed Pumps worked from the Main Engines, No. None Diameter 1" Stroke 1/2" Can one be overhauled while the other is at work Yes

Bilge Pumps worked from the Main Engines, No. 1 each Eng Diameter 6 1/16" Stroke 4 3/4" Can one be overhauled while the other is at work Yes

Feed Pumps { No. and size 2 - 8" x 10 1/2" x 2 1/2" Pumps connected to the Main Bilge Line { No. and size 1 - Ballast 8" x 10" x 10"

How driven Steam How driven Steam

Ballast Pumps, No. and size 1 - 8" x 10" x 10" Lubricating Oil Pumps, including Spare Pump, No. and size None

Are two independent means arranged for circulating water through the Oil Cooler None Suctions, connected to both Main Bilge Pumps and Auxiliary

Bilge Pumps; — In Engine and Boiler Room 4 - 3" In Holds, &c. None (Forward cargo hold has 2 - 3" suction connected to pumps in compartment in cargo hold).

Main Water Circulating Pump Direct Bilge Suctions, No. and size 1 - 10" Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size 1 - 6"

Are all the Bilge Suction Pipes in holds and turn l well fitted with strum-boxes Yes

Are the Bilge Suctions in the Machinery Space led from easily accessible mud-boxes, placed above the level of the working floor, with straight tail pipes to the bilges Yes

Are all Sea Connections fitted direct on the skin of the ship Yes Are they fitted with 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 Overboard Discharges 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 pass through the bunkers None How are they protected

What pipes pass through the deep tanks None Have they been tested as per Rule

Are all Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times Yes

Is the arrangement of Valves and their connections such as to prevent the possibility of water passing from the sea or from water tanks into the cargo or machinery spaces, or from one compartment to another Yes Is the Shaft Tunnel watertight None Is it fitted with a watertight door worked from

MAIN BOILERS, &c. — (Letter for record W. T. ) Total Heating Surface of Boilers 6520 sq. ft.

Is Forced Draft fitted Yes No. and Description of Boilers 2 - Babcock & Wilcox Working Pressure 180

IS A REPORT ON MAIN BOILERS NOW FORWARDED? Yes

IS A DONKEY BOILER FITTED? No If so, is a report now forwarded?

Is the donkey boiler intended to be used for domestic purposes only

PLANS. Are approved plans forwarded herewith for Shafting Yes Main Boilers Yes Auxiliary Boilers Donkey Boilers

(If not state date of approval)

Superheaters None General Pumping Arrangements Yes Oil fuel Burning Piping Arrangements Yes

## SPARE GEAR.

Has the spare gear required by the Rules been supplied Yes

State the principal additional spare gear supplied 1 - section crank shaft, 1 - screw shaft.

The foregoing is a correct description,

Manufacturer.

Aitchison Blair & Co. Ltd.

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1937 June: 16. 22 July: 1. 13 Aug: 17. 20. 31 Sep: 8. 16. 28 Oct: 5. 13. 18. 27 Nov: 2. 3.  
 During progress of work in shops - - 23. 25 Dec: 3. 14. 23. 29 (1938) Jan: 13. 20 Feb: 2. 9. 21. 25. 28 Mar: 4. 14. 16. 22. 29  
 Dates of Survey while building During erection on board vessel - - 29. 31 Apr: 5. 8. 11. 12. 20. 25. 29 May: 2. 10. 13. 18. 25. 26. 27. 31 June: 3. 6. 11. 29  
 July: 2  
 Total No. of visits 60

Dates of Examination of principal parts—Cylinders 5-10-37 etc Slides 2-2-38 etc Covers 16-6-37 etc  
 Pistons 1-7-37 etc Piston Rods 5-10-37 etc Connecting rods 5-10-37 etc  
 Crank shaft Leith 4-6-37 etc Thrust shafts 16-11-37 etc Intermediate shafts 2-2-11-37 etc  
 Tube shaft none Screw shafts Leith 18-7-37 etc Propellers Lon 14-9-37 etc  
 Stern tubes 3-12-37 etc Engine and boiler seatings 12-4-38 Engines holding down bolts 9-5-38 31-5-38  
 Completion of fitting sea connections 12-4-38  
 Completion of pumping arrangements 20.6.38 Boilers fixed 6.6.38. Engines tried under steam 29.6.38 2.7.38  
 Main boiler safety valves adjusted 17.6.38 Thickness of adjusting washers Port. 7/32 Starb. 9/16.  
 Crank shaft material S Identification Mark 3205, 3206 Thrust shaft material S Identification Mark 775, 787.  
 Intermediate shafts, material S Identification Marks 775, 787. Tube shaft, material none Identification Mark ✓  
 Screw shaft, material S Identification Mark 3264-56 Steam Pipes, material Steel Test pressure 540 lbs Date of Test 27.5.38 11.6.38  
 Is an installation fitted for burning oil fuel Yes Is the flash point of the oil to be used over 150°F. Yes  
 Have the requirements of the Rules for the use of oil as fuel been complied with Yes  
 Is the vessel (not being an oil tanker) fitted for carrying oil as cargo Tansu If so, have the requirements of the Rules been complied with ✓  
 If the notation for Ice Strengthening is desired, state whether the requirements in this respect have been complied with not required  
 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. The machinery of this vessel has been built under special survey in accordance with the approved plans, and the Society's Rules and requirements the materials and workmanship are good, it has been securely fitted on board, and satisfactorily tried under steam, and in our opinion eligible for the record + L.M.C 7-38, and notation, fitted for oil fuel, flash point above 150°F, and O.F. fitted.

Rob  
 H-4-38

Not recommended NHP.

The amount of Entry Fee ... £ 5 : 0 : 0 When applied for,  
 Special 3/6 ... £ 47 : 19 : 9 52 JUL 1938  
 Donkey Boiler Fee ... £ 47 : 17 : 9 When received,  
 Travelling Expenses (if any) £ : : 25/8 38

Jas. Cairns, M.B. Campbell  
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute GLASGOW 5 JUL 1938

Assigned + L.M.C 7.38 FD  
 Fitted for oil fuel 7.38 F.P. above 150°F.