

REPORT ON STEAM RECIPROCATING ENGINE MACHINERY.

COMBINED WITH EXHAUST STEAM TURBINE

Received at London Office

26 MAR 1936

Date of writing Report 23. 3. 1936 When handed in at Local Office 10 Port of BREMEN

No. in Survey held at WESERMÜNDE Date, First Survey 25th June 1935 Last Survey 7th March 1936

Reg. Book. 37972 on the STEEL SINGLE SC. STEAMER ETHIOPIAN (Number of Visits 51) Gross Tons 5424

Built at WESERMÜNDE By whom built WERK: SEEBECK Yard No. 896 When built 1936 Net Tons 3203

Engines made at WESERMÜNDE By whom made DESCHIMAG WERK: SEEBECK Engine No. 1409 When made 1936

Boilers made at WESERMÜNDE By whom made DESCHIMAG WERK: SEEBECK Boiler No. 1673/74 When made 1936

Registered Horse Power 350 Owners UNITED AFRICA COMPANY LTD. Port belonging to LIVERPOOL

Nom. Horse Power as per Rule 350 Is Refrigerating Machinery fitted for cargo purposes no Is Electric Light fitted yes

Trade for which Vessel is intended OPEN SEA SERVICE

ENGINES, &c.—Description of Engines TRIPLE EXPANSION, WITH EXHAUST TURBINE SYSTEM BAUER-WACH Revs. per minute 63

Dia. of Cylinders 550/900/1450 Length of Stroke 1000 No. of Cylinders 3 No. of Cranks 3

Crank shaft, dia. of journals 304 Crank pin dia. 310 Crank webs shrunk Thickness parallel to axis 200

Intermediate Shafts, diameter 304 Thrust shaft, diameter at collars 320

Tube Shafts, diameter 342 Screw Shaft, diameter 344 Is the tube shaft fitted with a continuous liner yes

Bronze Liners, thickness in way of bushes 18 Thickness between bushes 13.5 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 one 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 fit tightly

If two liners are fitted, is the shaft lapped or protected between the liners no Is an approved Oil Gland or other appliance fitted at the after end of the tube yes

Propeller, dia. 5500 Pitch 5640 No. of Blades 4 Material bronze whether Movable no Total Developed Surface 10.12 sq. feet

Feed Pumps worked from the Main Engines, No. none Diameter - Stroke - Can one be overhauled while the other is at work -

Bilge Pumps worked from the Main Engines, No. 2 Diameter 120 Stroke 550 Can one be overhauled while the other is at work yes

Feed Pumps { No. and size 2 duplex 220 x 160 x 450 Pumps connected to the { No. and size 1 duplex 200 x 270 x 400

{ How driven by steam Main Bilge Line { How driven by steam

Ballast Pumps, No. and size 1 dupl. 200 x 270 x 400 Lubricating Oil Pumps, including Spare Pump, No. and size 2 dupl. 180 x 180 x 250

Are two independent means arranged for circulating water through the Oil Cooler yes Suctions, connected to both Main Bilge Pumps and Auxiliary Bilge Pumps;—In Engine and Boiler Room 4 of 3" dia In Tunnel 1 of 3" dia

In Pump Room no In Holds, &c. No. 1, 2 of 3"; No. 2, 2 of 3 1/2"; No. 3, 2 of 3"; No. 4, 2 of 3"; No. 5, 2 of 3"

Main Water Circulating Pump Direct Bilge Suctions, No. and size 1 of 8" Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size 1 of 5"

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 valves & cocks

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 yes Is it fitted with a watertight door yes worked from top of Engine Room

MAIN BOILERS, &c.—(Letter for record 5) Total Heating Surface of Boilers 410 m² = 4476 sq. ft.

Is Forced Draft fitted yes No. and Description of Boilers 2 multibub. boilers Working Pressure 220 lbs.

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 2.4.35 Main Boilers 1.4.35 Auxiliary Boilers - Donkey Boilers -

(If not state date of approval)

Superheaters 16.7.35 General Pumping Arrangements 23.1.36 Oil fuel Burning Piping Arrangements -

SPARE GEAR.

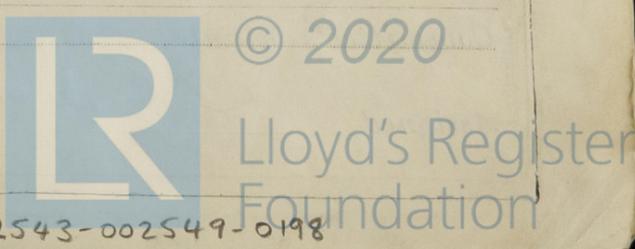
Has the spare gear required by the Rules been supplied yes

State the principal additional spare gear supplied Circulating Pump: 1 piston with rod, 1 slide valve spindle with rod & eccentric strap, 1 impeller wheel shaft, Air & Condensate Pump: 1 set of valves, 1 steam & 1 pump piston rod, Steam Feed Pumps: 1 set of suction & delivery valves, 1 steam & 1 pump piston rod, Seawater Pump 1 set of suction & delivery valves, Donkey Pump 1 set of suction & delivery valves, 1 steam & 1 pump piston rod. Lubricating Oil Pump 1 set of suction & delivery valves.

The foregoing is a correct description,
Work: Seebeck

Wesermünde
Seebeck

Manufacturer.



1935
 During progress of work in shops -- Jun. 25, July 30, Aug. 7, 13, 30, Sept. 3, 10, 11, 17, 20, 24, 26, 30, Oct. 3, 7, 11, 16, 17, 21, 23, 29, Nov. 6, 21, 15, 19, 27
 Dec. 3, 6, 10, 17.
 1935 1936
 During erection on board vessel --- Dec. 21, 30, Jan. 3, 7, 10, 14, 17, 21, 28, 31, Feb. 4, 7, 14, 21, 25, 28, March 3, 6, 7.
 Total No. of visits 51

Dates of Examination of principal parts—Cylinders 7, 10, 35, 6, 11, 35 Slides 10, 12, 35 Covers 7, 10, 35, 6, 11, 35
 Pistons 10, 12, 35, Piston Rods 10, 12, 35 Connecting rods 10, 12, 35
 Crank shaft 3, 10, 35 Thrust shaft 21, 11, 35 (dupl.) Intermediate shafts 29, 10, 35
 Tube shaft ✓ Screw shaft 29, 10, 35 Propeller 12, 11, 35
 Stern tube 21, 10, 35 Engine and boiler seatings 4, 12, 35 Engines holding down bolts 24, 1, 36.
 Completion of fitting sea connections 17, 12, 35
 Completion of pumping arrangements 28, 2, 36 Boilers fixed 17, 1, 36 Engines tried under steam 7, 3, 36
 Main boiler safety valves adjusted 25, 2, 36 Thickness of adjusting washers Port 9. 5 34.32 Ast 9. 5 35.02 Sump 5 22.2
 Crank shaft material P.M. Steel Identification Mark LLOYD'S MB. 22649 RC. 573. 3, 10, 35 Thrust shaft material P.M. Steel Identification Mark LLOYD'S ER. 19. 6, 35
 Intermediate shafts, material P.M. Steel Identification Marks LLOYD'S MB. 11390, 92, 29, 8, 35 J.B. 4788/89/92 INTERM shaft, material P.M. Steel Identification Mark LLOYD'S J.B. 4304, 12, 8, 35
 Screw shaft, material P.M. Steel Identification Mark LLOYD'S MB. 11374, 29, 8, 35 J.B. 4800, 28, 2, 35 RC. 29, 10, 35 Steam Pipes, material Steel Test pressure 50 kg/cm² Date of Test 3, 1, 36
 Is an installation fitted for burning oil fuel no Is the flash point of the oil to be used over 150°F. ✓
 Have the requirements of the Rules for the use of oil as fuel been complied with ✓
 Is the vessel (not being an oil tanker) fitted for carrying oil as cargo 2 tanks for vegetable oil ✓ If so, have the requirements of the Rules been complied with yes
 If the notation for Ice Strengthening is desired, state whether the requirements in this respect have been complied with no Ice Strengthening ✓
 Is this machinery duplicate of a previous case yes If so, state name of vessel NIGERIAN

General Remarks (State quality of workmanship, opinions as to class, &c. This Machinery has been built under Special Survey in accordance with the approved plans, the Secretary's letters, and in conformity with the requirements of the Rules. The materials used in the construction are made at works recognized by the Committee and tested by the Port Surveyor. Materials & workmanship are of good quality. In the recent trial trip of 10 hours duration all the machinery has been tested under full working and maneuvering condition, with and without Exhaust- Steam Turbine, and found in all parts in order.
 This Machinery is eligible in my opinion to be classed in the Port Reg. Book with record of * LMC 3-36 and notation of Tail Shaft (CL) Boiler pressure 220 lbs.

The amount of Entry Fee ... RM 100.- : When applied for,
 Special ... £ 1550.- : 24.3.1936
 Donkey Boiler Fee ... £ 5.- :
 Travelling Expenses (if any) £ 306.- : 24.4.1936

A. Carstensen
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute
 Assigned + LMC 3-36
 J.D., C.F.



pt. 4a.
 Date of writing
 No. in Survey Reg. Book.
 7974 on
 Built at
 Exhaust Turbine Engines made
 Boilers made
 Shaft Horsepower
 Nom. Horsepower
 Trade for use
 TEAM
 No. of Turbines
 direct coupled to
 for supplying power
 rated
 TURBINE
 BLADING
 1ST EXPANSION
 2ND "
 3RD "
 4TH "
 5TH "
 6TH "
 7TH "
 8TH "
 9TH "
 10TH "
 11TH "
 12TH "
 Shaft Horsepower
 Rotor Shaft
 Distance between
 Flexible Pin Shafts, diam.
 Wheel Shaft
 Intermediate
 Tube Shaft
 Bronze Liner
 propeller boss.
 If the liner diameter
 If two liners diameter
 shaft
 Propeller, diameter
 If Single Shaft
 Condenser
 Pumps connected
 Ballast Pumps
 Are two independent
 Pumps, No. of
 In Holds, &c.
 Main Water
 Bilges, No. and
 Are the Bilge
 Are all Sea
 Are they fitted
 Are they each
 What pipes pass
 What pipes pass
 Are all Pipes,
 Is the arrangement
 compartment to

PILL
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Certificate to be sent to Marine Office

The Surveyors are requested not to write on or below the space for Committee's Minute.