

# REPORT ON STEAM RECIPROCATING ENGINE MACHINERY.

COMBINED WITH EXHAUST STEAM TURBINE

Received at London Office

-4 MAY 1936

Date of writing Report 29. 4. 1936 When handed in at Local Office 19 36 Port of BREMEN

No. in Survey held at WESERMÜNDE Date, First Survey 25<sup>th</sup> June 35 Last Survey 22<sup>nd</sup> April 1936  
 Reg. Book. 38932 on the STEEL SINGLE SC. STEAMER LEONIAN (Number of Visits 45) Gross 5424 Tons  
 Net 3202 Tons

Built at WESERMÜNDE By whom built DEUTSCHE SCHIFF UND MASCHINENBAU A.G. WERK: SEEBECK Yard No. 898 When built 1936

Engines made at WESERMÜNDE By whom made DESCHIMAG, WERK: SEEBECK Engine No. 1411 When made 1936

Boilers made at WESERMÜNDE By whom made DESCHIMAG, WERK: SEEBECK Boiler No. 1677/78 When made 1936

Registered Horse Power - 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 BAUERWACH 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 as per Rule 304 Crank pin dia. 310 Crank webs shrunk Thickness parallel to axis 200  
 as fitted 305 Mid. length breadth shrunk Thickness around eye-hole 140

Intermediate Shafts, diameter as per Rule 304 Thrust shaft, diameter at collars as per Rule 320  
 as fitted 310 as fitted 320

Tube Shafts, diameter as per Rule Screw Shaft, diameter as per Rule 344 Is the tube shaft fitted with a continuous liner yes  
 as fitted ✓ as fitted 344 Is the screw shaft fitted with a continuous liner yes

Bronze Liners, thickness in way of bushes as per Rule 18 Thickness between bushes as per Rule 13.5 Is the after end of the liner made watertight in the  
 as fitted 23 as fitted 17.5 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 ✓ Is an approved Oil Gland or other appliance fitted at the after end of the tube shaft ✓ Length of Bearing in Stern Bush next to and supporting propeller 1640

Propeller, dia. 5500 Pitch 5640 No. of Blades 4 Material brone whether Movable no Total Developed Surface 1012 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 180 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 300 x 270 x 400  
 How driven by steam Main Bilge Line { How driven by steam

Ballast Pumps, No. and size 1 duplex 300 x 270 x 400 Lubricating Oil Pumps, including Spare Pump, No. and size 2 duplex 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"

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 all the Bilge Suction Pipes in holds and tunnel 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 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 416 m<sup>2</sup> = 4476 sq. ft.

Is Forced Draft fitted yes No. and Description of Boilers 2 multib. 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 no

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

Superheaters ✓ General Pumping Arrangements ✓ 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 and eccentric strap, 1 impeller wheel shaft; Air & Condensate Pump: 1 set of valves, 1 steam and 1 piston rod; Steam Feed Pumps: 1 set of suction and delivery valves, 1 steam and 1 pump piston rod; Ballast Pump: 1 set of suction & delivery valves; Donkey Pump: 1 set of suction and delivery valves, 1 steam and 1 pump piston rod; Lubricating Oil Pumps: 1 set of suction & delivery valves.

The foregoing is a correct description,

Manufacturer.

Deutsche Schiff- und Maschinenbau Aktiengesellschaft

Spea Hoops

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Register Foundation

NOTE.—The words which do not apply should be deleted.

1935

1936

During progress of work in shops - - - June 25, Sept. 10, 11, 17, 20, 24, 30, Feb. 7, 4, 21.  
 During erection on board vessel - - - Feb. 28, March 3, 6, 12, 17, 20, 27, 31, April 6, 15, 17, 22.  
 Total No. of visits 45

Dates of Examination of principal parts—Cylinders 19.11.35 3.12.35 21.12. Slides 28.1.36 Covers 19.11.35 3/12. 21/12.35  
 Pistons 28.1.36 Piston Rods 28.1.36 Connecting rods 6.12.35  
 Crank shaft 8.11.35 Thrust shaft 19.6.35 <sup>in Caspary</sup> Intermediate shafts 31.1.36  
 Tube shaft Screw shaft 31.1.36 Propeller 7.2.36  
 Stern tube 24.1.36 Engine and boiler seatings 21.2.36 Engines holding down bolts 6.3.36  
 Completion of fitting sea connections 7.2.36 & 14.2.36  
 Completion of pumping arrangements 15.4.36 Boilers fixed 6.4.36 Engines tried under steam  
 Main boiler safety valves adjusted 15.4.36 Thickness of adjusting washers Port B. Port valve 37.12 Start valve 39.22 Superh. 25.5 Z  
 Crank shaft material P.M. Steel Identification Mark LLOYD'S MB 11257-90.10.7.35 Thrust shaft material P.M. Steel Identification Mark V.S.  
 Intermediate shafts, material P.M. Steel Identification Marks LLOYD'S F.S. 2579.7.9.35 INTERM. LLOYD'S E.A. 1. 19.6.35  
 Screw shaft, material P.M. Steel Identification Mark LLOYD'S 3.8 4790.15.8.35 AC 31.1.36 shafts material P.M. Steel Identification Mark LLOYD'S J.B. 4787 & 4163.15.35  
 Steam Pipes, material P.M. Steel Test pressure 50 lbf/in<sup>2</sup> Date of Test 20.3.36  
 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  <sup>& tanks for</sup> 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  no Ice Strengthening  
 Is this machinery duplicate of a previous case  yes If so, state name of vessel NIGERIAN & ETHIOPIAN

**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 Purchers 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 Soc. Surveyors. Materials & workmanship are of good quality. On the recent trial trip of 14 hours duration all the machinery has been tested under full working and maneuvering conditions, with and without Exhaust-Stream Turbine, and found in all parts in order.  
 This machinery is eligible in my opinion to be classed in the Soc. Reg. Book with record of \* LMC 4.36. and notation of Tail Shaft (CL); Boiler pressure 220 lbs.

The amount of Entry Fee ... RM 100.- : When applied for,  
 Special ... \$ 15.50.- : 29.4. 1936  
 Donkey Boiler Fee ... \$ : When received,  
 Travelling Expenses (if any) \$ 2.90.- : 20.5. 1936

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

Committee's Minute FRI. 15 MAY 1936  
 Assigned + Amb. H. 36  
 J.D., C.L.



pt. 4a.  
 Date of writing  
 No. in Soc. Reg. Book. 38932 on  
 Built at  
 Exhaust Turbines  
 Boilers made  
 Shaft Horse  
 Nom. Horse  
 Trade for  
 STEAM  
 No. of Tur  
 direct coupled  
 for supplying  
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 Pumps, No.  
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Certificate to be sent to Surveyor Office

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