

EXHAUST

REPORT ON STEAM TURBINE MACHINERY.

No. 1782

pt. 4a.

Received at London Office 4 MAY 1936

Date of writing Report 29.4.1936 When handed in at Local Office 19 Port of BREMEN & AUGSBURG
No. in Survey held at HEIDENHEIM & BREMEN Date, First Survey 10.9.35 Last Survey 22.4.1936
Reg. Book. 38932 on the STEEL SC. STEAMER LEONIAN
Built at WESERMÜNDE By whom built DEUTSCHE SCHIFF UND MASCHINENBAU A.G. WERK: SEEBECK Yard No. 898 When built 1936
Engines made at HEIDENHEIM & BREMEN By whom made J.M. VOITH & DESCHIMAG A.G. WESER Engine No. DT 483 When made 1936
Boilers made at WESERMÜNDE By whom made DESCHIMAG WERK: SEEBECK Boiler No. 1677/8 When made 1936
Shaft Horse Power at Full Power 468 Owners UNITED AFRICA COMPANY LTD. Port belonging to LIVERPOOL
Nom. Horse Power as per Rule Is Refrigerating Machinery fitted for cargo purposes Is Electric Light fitted
Trade for which Vessel is intended OPEN SEA SERVICE

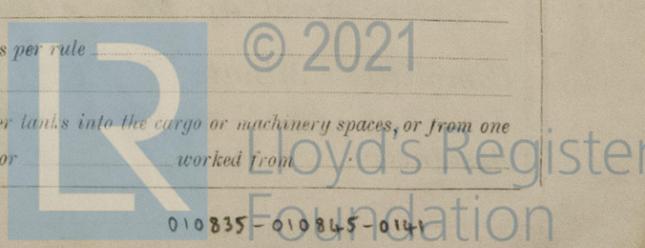
STEAM TURBINE ENGINES, &c.—Description of Engines SYSTEM: BAUER-WACH EXHAUST STEAM TURBINE DOUBLE REDUCTION GEARED

No. of Turbines Ahead 1 Direct coupled, single reduction geared to 1 propelling shafts. No. of primary pinions to each set of reduction gearing 1
Aster 1 double reduction geared
direct coupled to Alternating Current Generator phase periods per second rated Kilowatts Volts at revolutions per minute;
for supplying power for driving Propelling Motors, Type
rated Kilowatts Volts at revolutions per minute. Direct coupled, single or double reduction geared to propelling shafts.

Table with columns: TURBINE BLADING, H.P., I.P., L.P., ASTERN. Rows include 1st Expansion, 2nd, 3rd, 4th, 5th, 6th, 7th, 8th, 9th, 10th, 11th, 12th. Columns contain height of blades, diameter at tip, and number of rows.

Shaft Horse Power at each turbine H.P. 468 I.P. 5210 L.P. 5210
Rotor Shaft diameter at journals H.P. 100 L.P. 100
Distance between centres of pinion and wheel faces and the centre of the adjacent bearings
Flexible Pinion Shafts, diameter 1st 100 2nd 100
Wheel Shafts, diameter at bearings 1st 230 2nd 420
Intermediate Shafts, diameter as per rule 304 as fitted 310
Thrust Shaft, diameter at collars as per rule 320 as fitted 320

Tube Shaft, diameter as per rule Screw Shaft, diameter as per rule
Bronze Liners, thickness in way of bushes as per rule Thickness between bushes as per rule
Propeller, diameter Pitch No. of Blades State whether Moveable Total Developed Surface square feet.
Condenser No. of Turbines fitted with astern wheels Feed Pumps No. and size How driven
Pumps connected to the Main Bilge Line No. and size How driven
Ballast Pumps, No. and size Lubricating Oil Pumps, including Spare Pump, No. and size
Main Water Circulating Pump Direct Bilge Suctions, No. and size Independent Power Pump Direct Suctions to the Engine Room



**BOILERS, &c.**—(Letter for record ) Total Heating Surface of Boilers

Is Forced Draft fitted  No. and Description of Boilers  Working Pressure

Is a Report on Main Boilers now forwarded?

Is  a Donkey  an Auxiliary Boiler fitted?  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, 25.4.35; Main Boilers  Auxiliary Boilers  Donkey Boilers   
(If not state date of approval)

Superheaters  General Pumping Arrangements  Oil Fuel Burning Arrangements

**SPARE GEAR.**

Has the spare gear required by the Rules been supplied

State the principal additional spare gear supplied for Exhaust Turbine & Gear  
 10 turn pads & bolts for turbine thrust bearing; 1/2 bearing frame for turbine bearing form.  
 1/2 bearing frame for turbine bearing aft; 2 springs for quick closing device.  
 1 spring for safety governor; 1 coupling bolt for thrust shaft; 1 coupling bolt for turbine pinion  
 10 turn pads & bolts for propeller thrust bearing; 10 turn pads & bolts for main pinion thrust  
 bearing; a number of special tools etc.

Deutsche Schiff- und Maschinenbau  
Aktiengesellschaft  
Werk: Act. Ges. „Weser“  
Bremen. 25/4.1936 i.d. Redman.

The foregoing is a correct description, Manufacturer.

Dates of Survey while building	{	Premises	Dapthong
		During progress of work in shops - -	21.11.35, 30.11.35, 20.12.35, 7.1.36, 10.1.36, 24.1.36
		During erection on board vessel - - -	28.2.36, 3.3.36, 6.4.36, 22.4.36
		Total No. of visits	14

Dates of Examination of principal parts—Casings 20.12.35 Rotors 21.10.35 Blading 17.10.35 Gearing 24.1.36

Wheel shaft 7.1.36 Thrust shaft 7.1.36 Intermediate shafts  Tube shaft  Screw shaft

Propeller  Stern tube  Engine and boiler seatings  Engine holding down bolts

Completion of fitting sea connections  Completion of pumping arrangements  Boilers fired  Engines tried under steam 22.4.36

Main boiler safety valves adjusted  Thickness of adjusting washers

Rotor shaft, Material and tensile strength P.M. Steel 58 kg/mm<sup>2</sup> Identification Mark R.C. 21.10.35  
 LLOYD'S K.H. 15935. 25.7.35

Pinion shaft, Material and tensile strength P.M. Steel 75.5 kg/mm<sup>2</sup> Identification Mark V.3  
 LLOYD'S K.H. 15919. 1.7.35

Pinion shaft, Material and tensile strength P.M. Steel 73.6 Identification Mark V.5  
 LLOYD'S M.B. 11312. 17.7.35

1st Reduction Wheel Shaft, Material and tensile strength P.M. Steel Identification Mark V.5  
 LLOYD'S J.L. 9757. 1.6.35

Wheel shaft, Material P.M. Steel Identification Mark V.5 Thrust shaft, Material P.M. Steel Identification Mark V.5  
 LLOYD'S E.A. 1. 19.6.35

CONICAL COUPLING Intermediate shafts, Material P.M. Steel Identification Marks V.5 Tube shaft, Material  Identification Marks

Screw shaft, Material  Identification Marks  Steam Pipes, Material  Test pressure

Date of test  Is an installation fitted for burning oil fuel

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  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

Is this machinery a duplicate of a previous case  If so, state name of vessel **NIGERIAN & ETHIOPIAN**

**General Remarks** (State quality of workmanship, opinions as to class, &c.) This LP turbine & gear with hydraulic coupling are built: the complete turbine rotor & stator blading at Messrs: Deutsche Schiff & Maschinenbau A.G. Werk A.G. Weser, Bremen, and all the other parts at Messrs. F.M. Voith of Heidenheim. It has been built under special survey in accordance with the approved plans, the Secretary's letters & otherwise in conformity with the requirements of the Rules. Materials and workmanship are of good quality. During the vessel's trial trip all the parts have been tried under full working and maneuvering conditions and found satisfactory in all respects.

The amount of Entry Fee ... £	:	:	When applied for,
Specialty ... RM	234	:	11.2.1936
Donkey Boiler Fee ... £	78	:	When received,
Travelling Expenses (if any) RM	110	:	6.5.1936
	7	:	6/5

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

Committee's Minute **FRI. 15 MAY 1936**  
Assigned *See Pmn. 36. 1787*



Rpt. 5a.  
 Date of writing Report  
 No. in Survey Reg. Book. **38932** on the 2  
 Master  
 Engines made at  
 Boilers made at  
 Nominal Horse Power  
 MULTITUB  
 Manufacturers of  
 Total Heating Surface  
 No. and Description  
 Tested by hydraulic  
 Area of Firegrate  
 Area of each set  
 In case of donkey  
 Smallest distance  
 Smallest distance  
 Largest internal  
 Thickness 3  
 long seams 20  
 Percentage of stay  
 Percentage of stay  
 Thickness of bu  
 Material 1  
 Length of plain  
 Dimensions of  
 End plates in  
 How are stays  
 Tube plates  
 Mean pitch of  
 Girders to com  
 at centre 2  
 in each  
 Tensile strengt  
 Pitch of stays  
 Working pres  
 Thickness  
 Pitch of stays  
 Working Pres  
 Diameter { At b  
 Over  
 Working pres  
 Diameter { At t  
 Over

Certificate (if required) to be sent to...  
 (The Surveys are requested not to write on or below the space for Committee's Minute.)