

pt. 4a.

EXHAUST REPORT ON STEAM TURBINE MACHINERY.

No. 1782

Received at London Office 4 MAY 1936

Date of writing Report 29. 4. 1936 When handed in at Local Office

Port of BREMEN & AUGSBURG

No. in Survey held at HEIDENHEIM & BREMEN

Date, First Survey 10. 9. 35 Last Survey 22. 4. 1936

Reg. Book.

(Number of Visits 14)

Tons Gross 5424 Net 3202

38932 on the STEEL SC. STEAMER

LEONIAN

Built at WESERMÜNDE

By whom built 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

Traffic for which Vessel is intended OPEN SEA SERVICE

STEAM TURBINE ENGINES, &c.—Description of Engines EXHAUST 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

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.

TURBINE BLADING.	H.P.			I.P.			L.P.			ASTERN.		
	HEIGHT OF BLADES.	DIAMETER AT TIP.	NO. OF ROWS.	HEIGHT OF BLADES.	DIAMETER AT TIP.	NO. OF ROWS.	HEIGHT OF BLADES.	DIAMETER AT TIP.	NO. OF ROWS.	HEIGHT OF BLADES.	DIAMETER AT TIP.	NO. OF ROWS.
1ST EXPANSION							54.2	608.2	1			
2ND "							67.	634.	1			
3RD "							80.	660.	1			
4TH "							93.	686.	1			
5TH "							106.	712.	1			
6TH "							121.	742.	1			
7TH "							137.	794.	1			
8TH "												
9TH "												
10TH "												
11TH "												
12TH "												

Shaft Horse Power at each turbine H.P. I.P. L.P. 468

Rotor Shaft diameter at journals H.P. I.P. L.P. 100.2 100.2

Distance between centres of pinion and wheel faces and the centre of the adjacent bearings

Flexible Pinion Shafts, diameter 1st 2nd

Wheel Shafts, diameter at bearings 1st 2nd

Intermediate Shafts, diameter as per rule as fitted

Tube Shaft, diameter as per rule as fitted

Bronze Liners, thickness, in way of bushes as per rule as fitted

Propeller, diameter Pitch No. of Blades

If Single Screw, are arrangements made so that steam can be led direct to the L.P. Turbine

Condenser No. of Turbines fitted with astern wheels

Pumps connected to the Main Bilge Line No. and size How driven

Ballast Pumps, No. and size

Are two independent means arranged for circulating water through the Oil Cooler

Pumps, No. and size:—In Engine and Boiler Room

In Holds, &c.

Main Water Circulating Pump Direct Bilge Suctions, No. and size

Bilges, No. and size

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

Are all Sea Connections fitted direct on the skin of the ship

Are they fixed sufficiently high on the ship's side to be seen without lifting the stokehold plates

Are they each fitted with a Discharge Valve always accessible on the plating of the vessel

What pipes pass through the bunkers

What pipes pass through the deep tanks

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

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

Is the Shaft Tunnel watertight

Is it fitted with a watertight door

worked from

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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 ☒ 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 frame.
1/2 bearing frame for turbine bearing off; 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., Wessert
Bremen 15/4. 1936 i.d. Niederlande.

The foregoing is a correct description,

Manufacturer.

Dates of Survey while building	During progress of work in shops - -	10.9.35, 25.9.35, 17.10.35, 21.10.35,	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	<input checked="" type="checkbox"/>	Tube shaft	<input checked="" type="checkbox"/>
Propeller	<input checked="" type="checkbox"/>	Stern tube	<input checked="" type="checkbox"/>	Engine and boiler seatings	<input checked="" type="checkbox"/>	Engine holding down bolts	<input checked="" type="checkbox"/>
Completion of fitting sea connections	<input checked="" type="checkbox"/>	Completion of pumping arrangements	<input checked="" type="checkbox"/>	Boilers fired	<input checked="" type="checkbox"/>	Engines tried under steam	22.4.36
Main boiler safety valves adjusted	<input checked="" type="checkbox"/>	Thickness of adjusting washers	<input checked="" type="checkbox"/>				
Rotor shaft, Material and tensile strength	P.M. Steel	58 kg/mm ²					
Pinion Shaft, Material and tensile strength	P.M. Steel	75.5 kg/mm ²					
Pinion shaft, Material and tensile strength	P.M. Steel	73.6					
1st Reduction Wheel Shaft, Material and tensile strength							
Wheel shaft, Material	P.M. Steel	Identification Mark	V.S	Thrust shaft, Material	P.M. Steel	Identification Mark	V.S
CONICAL COUPLING							
Intermediate shafts, Material	P.M. Steel	Identification Marks	V.S	Tube shaft, Material	<input checked="" type="checkbox"/>	Identification Marks	<input checked="" type="checkbox"/>
Screw shaft, Material	<input checked="" type="checkbox"/>	Identification Marks	<input checked="" type="checkbox"/>	Steam Pipes, Material	<input checked="" type="checkbox"/>	Test pressure	<input checked="" type="checkbox"/>
Date of test	<input checked="" type="checkbox"/>			Is an installation fitted for burning oil fuel	<input checked="" type="checkbox"/>		
Is the flash point of the oil to be used over 150°F.	<input checked="" type="checkbox"/>			Have the requirements of the Rules for the use of oil as fuel been complied with	<input checked="" type="checkbox"/>		
Is the vessel (not being an oil tanker) fitted for carrying oil as cargo	<input checked="" type="checkbox"/>			If so, have the requirements of the Rules been complied with	<input checked="" type="checkbox"/>		
If the notation for ice strengthening is desired, state whether the requirements in this respect have been complied with	<input checked="" type="checkbox"/>						

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 Muench: Deutsche Schiff & Maschinenbau A.G. Werk A.G. Wessert, Bremen, and all the other parts at Muench. 7.9.36. With of Heiderheim. It has been built under Special Survey in accordance with the appx. plans, the Puncture 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 condition and found satisfactory in all respects.

The amount of Entry Fee	£	:	:	When applied for,
Special	RM	234	:	11.2.1936
Donkey Boiler Fee	£	:	:	When received,
Travelling Expenses (if any)	RM	110	:	6.5.1936

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

Committee's Minute **FRI. 15 MAY 1936**

Assigned

See Bmn. 36. 1787



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Rpt. 5a.

Date of writing Report

No. in Survey h
Reg. Book.

38932 on the 2

Master

Engines made at

Boilers made at

Nominal Horse P

MULTITUB

Manufacturers of

Total Heating S

No. and Descrip

Tested by hydrav

Area of Firegrat

Area of each set

In case of donkey

Smallest distanc

Smallest distanc

Largest internal

Thickness 3

long. seams 20

Percentage of s

Percentage of s

Thickness of bu

Material 1

Length of plain

Dimensions of

End plates in

How are stays

Tube plates:

Mean pitch of

Girders to con

at centre 2

in each

Tensile streng

Pitch of stays

Working pres

Thickness

Pitch of stays

Working Pres

Diameter { At

Over

Working pres

Diameter { At

Over