

REPORT ON OIL ENGINE MACHINERY

No. 16680

Received at London Office 1 FEB 1926

Date of writing Report 23. 1. 1926 When handed in at Local Office 19. 1. 1926 Port of **HAMBURG**

No. in Survey held at **HAMBURG** Date, First Survey 12. 2. 25 Last Survey 14. 1. 1926

Reg. Book. 39578 on the **Twin** } **JAVANESE PRINCE** } **Screw vessels**

Sample } **Triple** } **Tons** { Gross 6376
Net 3574

Built at **HAMBURG** By whom built **Deutsche Werft A. G.** Yard No. 82 When built 1926

Engines made at **BERLIN** By whom made **Allgemeine-Electricitäts-Gesellschaft** Engine No. 182/53 When made 1926

Donkey Boilers made at **HAMBURG** By whom made **Deutsche Werft A. G.** Boiler No. 203 When made 1926

Brake Horse Power 5200 Owners **RIO-CAPE-LINE Ltd.** Port belonging to **LONDON**

Nom. Horse Power as per Rule 13/3 Is Refrigerating Machinery fitted for cargo purposes **no** Is Electric Light fitted **yes**

IL ENGINES, &c.—Type of Engines 2 Diesel Oil Engines of B & W Type 2 or 4 stroke cycle 4 Single or double acting single

Maximum pressure in cylinders 35 kg No. of cylinders 2 x 8 Diameter of cylinders 740 mm No. of cranks 2 x 8 Length of stroke 1200 mm

Span of bearings, adjacent to the Crank, measured from inner edge to inner edge 980 mm Is there a bearing between each crank **yes**

Revolutions per minute 122 Flywheel dia. 2540 Weight 12800 kg Means of ignition **Picard principle** Kind of fuel used **Dist. Motor Oil**

Crank Shaft, dia. of journals as per Rule 455 mm as fitted 466 mm Crank pin dia. 466 mm Crank Webs Mid. length breadth 770 mm Mid. length thickness 300 mm Thickness parallel to axis 300 mm Thickness around eye-hole 203/199

Flywheel Shafts, diameter as per Rule as fitted Intermediate Shafts, diameter as per Rule 312 mm as fitted 318 mm Thrust Shaft, diameter at collars as per Rule 328 mm as fitted 380 mm

Tube Shafts, diameter as per Rule as fitted Screw Shaft, diameter as per Rule 341 mm as fitted 348 mm Is the shaft fitted with a continuous liner **yes**

Bronze Liners, thickness in way of bushes as per Rule 18 mm as fitted 19/20 mm Thickness between bushes as per rule 14 mm as fitted 15 mm 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**

Is 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**

Is an approved Oil Gland or other appliance fitted at the after end of the tube shaft **no** Length of Bearing in Stern Bush next to and supporting propeller **600 mm (forw.) 1450 mm (aft)**

Propeller, dia. 4150 mm Pitch 4250 mm No. of blades 3 Material **bronze** whether Moveable **no** Total Developed Surface 5,69 m² sq feet

Method of reversing Engines **B & W** Is a governor or other arrangement fitted to prevent racing of the engine when declutched **yes** Means of lubrication **red lubr.** Thickness of cylinder liners 53,5 mm Are the cylinders fitted with safety valves **yes** Are the exhaust pipes and silencers water cooled or lagged with insulating material **yes** If the exhaust is led overboard near the waterline, what means are arranged to prevent water from being syphoned back to the engine **led to funnel**

Boiling Water Pumps, No. 2 Is the sea suction provided with an efficient strainer which can be cleared within the vessel **yes**

Bilge Pumps fitted to the Main Engines, No. **none** Diameter Stroke Can one be overhauled while the other is at work

Bilge Pumps connected to the Main Bilge Line { No. and Size 2, 2 x 152 mm dia 152 mm stroke
How driven **by electric motor**

Ballast Pumps, No. and size 1, 2 x 254 mm dia 254 mm stroke Lubricating Oil Pumps, including Spare Pump, No. and size 2 x 2 can 25 tons p. hour

Are two independent means arranged for circulating water through the Oil Cooler **no oil cooler** Suctions, connected to both Main Bilge Pumps and Auxiliary Bilge Pumps, No. and size:—In Engine and Boiler Room 6 of 76 mm from engine room, one of 76 mm from thrust bearing room, one of 76 mm from tunnel well Holds, &c. 2 of 76 mm in No. I, II & III holds; 3 of 76 mm in No. II hold, one of 76 mm in No. IV hold.

Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size 2 of 76 mm

Are all the Bilge Suction pipes in Holds and Tunnel Well fitted with strum-boxes **yes** Are the Bilge Suctions in the Machinery Space 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 and a scupper shut as a compass** 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 platform plates **yes** Are the Overboard Discharges above or below the deep water line **yes**

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**

Are all pipes pass through the bunkers **none** How are they protected

Are all 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 upper engine room

Is the vessel a wood vessel, what means are provided to prevent leakage of either fuel oil or of lubricating oil from saturating the woodwork

Auxiliary Air Compressors, No. 2 No. of stages 3 Diameters 850/760/170 mm Stroke 400 mm Driven by **main engines**

Auxiliary Air Compressors, No. 3 No. of stages 3 Diameters 320/265/80 mm Stroke 170 mm Driven by **aux. fixed engines**

All Auxiliary Air Compressors, No. 1 No. of stages 2 Diameters 125/30 Stroke 75 Driven by **steam engine**

Revolving Air Pumps, No. Diameter Stroke Driven by

Auxiliary Engines crank shafts, diameter as per Rule 161,5 mm as fitted 162 mm

RECEIVERS:—Is each receiver, which can be isolated, fitted with a safety valve as per Rule **yes**

Are the internal surfaces of the receivers be examined **yes** What means are provided for cleaning their inner surfaces **manholes or screwed covers**

Is there a drain arrangement fitted at the lowest part of each receiver **yes**

	A	B	C	D	A	B	C	D	A	B	C	D
High Pressure Air Receivers, No. 8	20	24	20	10	450	360	360	246	25	21	20	12
Material	steel				Internal diameter				thickness			
Material	steel				Range of tensile strength				Working pressure by Rules			
Material	steel				Internal diameter				thickness			
Material	steel				Range of tensile strength				Working pressure by Rules			

Working pressure by Rules 66/69/67/92

Working pressure by Rules 25, 49

W182-0182

IS A DONKEY BOILER FITTED? *yes* and a exhaust gas fired one If so, is a report now forwarded? *yes*
 HYDRAULIC TESTS:— D.B. 200 lbs 7.11.25, Exhaust gas fired Boiler 86 lbs 17.12.25

DESCRIPTION.	DATE OF TEST.	WORKING PRESSURE.	TEST PRESSURE.	STAMPED.	REMARKS.
ENGINE CYLINDERS	24.8.25	35 kg	60 kg	A.C.	
" " COVERS	24/8.25, 11/9.25	35 "	60 "	A.C.	
" " JACKETS	24/8.25, 30/10.25	2 "	5 "	A.C.	
" PISTON WATER PASSAGES	13/8.25, 24/8.25	2 "	5 "	A.C.	
MAIN COMPRESSORS—1st STAGE	27.8.25	65 "	130 "	A.C.	
" 2nd "	27.8.25	15 "	30 "	A.C.	
" 3rd "	27.8.25	10 "	10 "	A.C.	
AIR RECEIVERS—STARTING	12.10.25	356 lbs	580 lbs	A.C.	
" INJECTION	12/5.25, 15/5.25, 22/8.25, 16/9.25	9.25 lbs	1850 lbs	F.L.	{ 500/501 F.L. 12.5.25 512/513 F.L. 12.5.25 125 F.L. 22.8.25 134/35/36 F.L. 16.9.25
AIR PIPES	16/12.25, 23/12.25	65 kg	130 kg	A.C.	
FUEL PIPES	29.12.25	65 kg	130 kg	A.C.	
FUEL PUMPS	11.1.26	65 "	130 "	A.C.	
SILENCER	29.12.25	0.5 "	3 "	A.C.	
" WATER JACKET	29.12.25	2 kg	4 kg	A.C.	
SEPARATE FUEL TANKS	4.11.25	0.3 kg	0.6 kg	A.C.	

PLANS. Are approved plans forwarded herewith for Shafting *no* 10/2.25, 3/2.25, 23/2.25, 9/2.25 Receivers, *no* 23/2.25, 25/6.25 Separate Tanks *no* 17/7.25
 (If not, state date of approval)
 Donkey Boilers *no* 29/6.25 15/10.25 General Pumping Arrangements *no* 27/2.25 Oil Fuel Burning Arrangements

SPARE GEAR All spare articles as required per Section 6 of the Rules for construction survey of Diesel engines and their auxiliaries page 115 of the Rules (1925-26) has been supplied with

The foregoing is a correct description,

DEUTSCHE WERFT
AKTIENGESELLSCHAFT.

Manufacturer.

Dates of Survey while building	During progress of work in shops--	12/1, 30/4, 20/5, 11/6, 22/6, 1/7, 2/7, 9/7, 13/7, 24/7, 30/7, 3/8, 6/8, 10/8, 13/8, 15/8, 20/8, 24/8, 27/8, 3/9, 11/9, 17/9, 19/9, 23/9, 24/9, 29/9, 30/9, 5/10, 7/10
	During erection on board vessel--	8/10, 12/10, 17/10, 20/10, 29/10, 30/10, 4/11, 7/11, 10/11.25
Total No. of visits		56

Dates of Examination of principal parts—Cylinders 30.10.25 Covers 30.10.25 Pistons 13.8.25 Rods 12.8.25 Connecting rods 13.8.25
 Crank shaft 27.8.25 Flywheel shaft ✓ Thrust shaft 23.9.25 Intermediate shafts 23.9.25 Tube shaft ✓
 Screw shaft 23.9.25 Propeller 12.1.26 Stern tube 29.10.25 Engine seatings 7.12.25 Engines holding down bolts 7.12.25
 Completion of fitting sea connections 7.11.25 Completion of pumping arrangements 8.1.26 Engines tried under working conditions 11.1.26
 Crank shaft, Material *steel* Identification Mark *1208/9/10 F.A. 23.4.25* Flywheel shaft, Material ✓ Identification Mark ✓
 Thrust shaft, Material *steel* Identification Mark *198 X.3. 15.8.25* Intermediate shafts, Material *steel* Identification Mark *6587/90 HK 15.6.25*
 Tube shaft, Material ✓ Identification Mark ✓ Screw shaft, Material *steel* ✓ Identification Mark *6623 HK 25.6.25*
 Is the flash point of the oil to be used over 150° F. *yes* ✓ spare = *137 EF 28.5.25*

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. Material and workmanship of this machinery are of good quality and the outfit is ample. The material used in the construction are made at works recognized by the Committee and tested in accordance with the Rules. The machinery has been built under Special Survey in accordance with the approved plans the Secretary's letters and otherwise in conformity with the requirements of the Rules. It has given full satisfaction under full working and manœuvring conditions during two trial trips of together about 24 hours, and is eligible in our opinion for classification of " * L.M.C. - 1.26 " oil engines. Tail shaft C.H.

The amount of Entry Fee ... £ 6 : 0 - 0 When applied for,
 Special *M* ... £ 132 : 16 - 6 25.4.1926
 3 starting air receivers Donkey Boiler Fee ... £ 12 : 12 - 0 When received,
 Travelling Expenses (if any) £ 51 : 3 - 6 9.3.26

Committee's Minute

FRI. 5 FEB 1926

Assigned

+ Lmb. 1.26 Cf
 Oil Engines S.B. 100th

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



© 2019
 Lloyd's Register Foundation

FRI. 26 MAR 1926

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