

REPORT ON OIL ENGINE MACHINERY.

Received at London Office 15 MAR 1926

Date of writing Report 11th March 1926 When handed in at Local Office 13-3-1926 Port of Rouen
No. in Survey held at Rouen Date, First Survey September 2nd Last Survey Feb. 4th 1925-6
Reg. Book. Number of Visits 23

on the ^{Single} ~~Twin~~ ~~Triple~~ ~~Quadruple~~ Screw vessel "TIJUCA" Tons ^{Gross} 5374 _{Net} 3251
Built at Rouen By whom built Chantiers de Normandie Yard No. E-5 When built 1926
Engines made at Copenhagen By whom made Burmeister & Wain Engine No. {1100} When made 1924-25
Donkey Boilers made at Penhoët, St. Margain By whom made Ch. et Al. de St. Margain Boiler No. 1200 When made 1925
Brake Horse Power 3000 Owners Wilk. Wilhelmsen Port belonging to Jonsberg
Nom. Horse Power as per Rule 714 Is Refrigerating Machinery fitted for cargo purposes Yes Is Electric Light fitted Yes
Trade for which vessel is intended World wide

OIL ENGINES, &c—Type of Engines 2-Vert. Diesel Oil Engines 2 or 4 stroke cycle 4 Single or double acting Single
Maximum pressure in cylinders 35 kg/cm² Diameter of cylinders 630 mm Length of stroke 1100 mm No. of cylinders 12 No. of cranks 12
Span of bearings, adjacent to the Crank, measured from inner edge to inner edge 892 mm Is there a bearing between each crank Yes
Revolutions per minute 135 Flywheel dia. 2620 mm Weight 8.3 tons Means of ignition Compressed air Kind of fuel used burnt oil, 44°
Crank Shaft, dia. of journals ^{as per Rule} 390 mm Crank pin dia. 390 mm Crank Webs ^{Mid. length breadth} 740 mm ^{Thickness parallel to axis} 266 mm
Flywheel Shaft, diameter ^{as per Rule} 390 mm Intermediate Shafts, diameter ^{as per Rule} 260 mm Thrust Shaft, diameter at collars ^{as per Rule} 11 1/2"
Tube Shaft, diameter ^{as per Rule} 288 mm Screw Shaft, diameter ^{as per Rule} 288 mm Is the ^{shaft} is the shaft fitted with a continuous liner Yes
Bronze Liners, thickness in way of bushes ^{as per Rule} 16.3 mm Thickness between bushes ^{as per Rule} 13.5 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
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 Yes
If two liners are fitted, is the shaft lapped or protected between the liners Yes Is an approved Oil Gland or other appliance fitted at the after end of the tube shaft None, wooded stem bush Length of Bearing in Stern Bush next to and supporting propeller 1,300 mm

Propeller, dia. 3.50 m Pitch 3.35 m No. of blades 4 Material bronz whether Moveable fixed Total Developed Surface 3.74 sq. feet
Method of reversing Engines Direct Is a governor or other arrangement fitted to prevent racing of the engine when declutched Yes Means of lubrication forced
Thickness of cylinder liners 46 mm Are the cylinders fitted with safety valves Yes Are the exhaust pipes and silencers water cooled or lagged with non-conducting 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 exhaust funnel

Cooling Water Pumps, No. 2-150 tons Is the sea suction provided with an efficient strainer which can be cleared within the vessel Yes
Bilge Pumps worked from the Main Engines, No. 2 Diameter 160 mm Stroke 196 mm Can one be overhauled while the other is at work Yes
Pumps connected to the Main Bilge Line { No. and Size 2 main - 160 mm x 196 mm; 1 bilge - 20 tons; 1 ballast 150 tons
How driven Main engines Electric motor Electric motor

Ballast Pumps, No. and size One - 150 tons Lubricating Oil Pumps, including Spare Pump, No. and size Two - 50 tons each
Are two independent means arranged for circulating water through the Oil Cooler Yes Suctions, connected to both Main Bilge Pumps and Auxiliary Bilge Pumps, No. and size:—In Machinery Spaces One - 94 mm stem tube; Four - 54 mm off-berm 1-tunnel 90 mm
In Holds, &c. 1-FP 60 mm; 1-AP 60 mm; 2-N-1, 90 mm; 2-N-2, 90 mm; 2-N-3, 90 mm also 1 off-berm 60 mm; 2-N-4, 90 mm; 2-N-5, 50 mm and 1, 90 mm;

Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size Two main (p.r.s.) - 94 mm; Two bilge (p.r.s.) - 74 mm; One ballast (20t) 152 mm
Are all the Bilge Suction pipes in Holds and Tunnel Well fitted with strum-boxes Yes Are the Bilge Suctions in the Machinery Spaces 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 & 1 D.B. blowdown cock
Are they fixed sufficiently high on the ship's side to be seen without lifting the platform plates Yes Are the Overboard Discharges above outside 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
What pipes pass through the bunkers Yes How are they protected Yes
What pipes pass through the deep tanks Yes Have they been tested as per Rule Yes

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

Main Air Compressors, No. 2 No. of stages — Diameters — Stroke — Driven by —
Auxiliary Air Compressors, No. 3 No. of stages — Diameters — Stroke — Driven by —
Small Auxiliary Air Compressors, No. 1 No. of stages — Diameters — Stroke — Driven by —
Scavenging Air Pumps, No. — Diameter — Stroke — Driven by —
Auxiliary Engines crank shafts, diameter ^{as per Rule} — ^{as fitted} —

AIR RECEIVERS:—Is each receiver, which can be isolated, fitted with a safety valve as per Rule Yes
Can the internal surfaces of the receivers be examined Yes What means are provided for cleaning their inner surfaces Yes
Is there a drain arrangement fitted at the lowest part of each receiver Yes

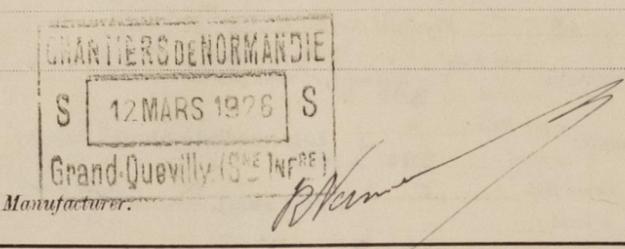
High Pressure Air Receivers, No. — Cubic capacity of each — Internal diameter — thickness —
Seamless, lap welded or riveted longitudinal joint Yes Material — Range of tensile strength — Working pressure by Rules —
Starting Air Receivers, No. — Total cubic capacity — Internal diameter — thickness —
Seamless, lap welded or riveted longitudinal joint Yes Material — Range of tensile strength — Working pressure by Rules —



IS A DONKEY BOILER FITTED? *Yes* ✓ If so, is a report now forwarded? *Yes* ✓
 PLANS. Are approved plans forwarded herewith for Shafting *Approved 5-6-24* ✓ Receivers *✓* Separate Tanks *✓*
(If not, state date of approval)
 Donkey Boilers *✓* General Pumping Arrangements *Approved Plans 16-10-24* Oil Fuel Burning Arrangements *Approved 30-10-25*

SPARE GEAR *As per attached list, checked after placing aboard and found correct.*

The foregoing is a correct description.



Dates of Survey while building
 During progress of work in shops - *✓*
 During erection on board vessel - *1925, Sept 2, Oct 14, 26, Nov 2, 18, 23, 27, Dec 9, 10, 11, 12, 16, 18, 19, 21, 22, 1926, Jan 15, 27, 29, 31, Feb 1, 1926*
 Total No. of visits *23*

Dates of Examination of principal parts—Cylinders *✓* Covers *✓* Pistons *✓* Rods *✓* Connecting rods *✓*
 Crank shaft *✓* Flywheel shaft *✓* Thrust shaft *✓* Intermediate shafts *9-12-24 to 17-3-25* Tube shaft *✓*
 Screw shafts *15-4-25* Propeller *6-5-25* Stern tube *15-17-4-25* Engine seatings *18-11-25* Engines holding down bolts *18-11-25*
 Completion of fitting sea connections *2-9-25* Completion of pumping arrangements *12-12-25* Engines tried under working conditions *1-12-25/2/26*
 Crank shaft, Material *✓* Identification Mark *✓* Flywheel shaft, Material *✓* Identification Mark *✓*
 Thrust shaft, Material *✓* Identification Mark *✓* Intermediate shafts, Material *Steel* Identification Marks *N^o 243, 247, 266, 268, 269, 270, 272, 283.*
 Tube shaft, Material *✓* Identification Mark *✓* Screw shaft, Material *Steel* Identification Marks *3 shafts - N^o 16*

Is the flash point of the oil to be used over 150° F. *Yes*
 Is this machinery duplicate of a previous case *✓* If so, state name of vessel *✓*

General Remarks (State quality of workmanship, opinions as to class, &c. *The Oil Engine Machinery, as per Copenhagen Report N^o 7131, (forwarded herewith), has been fitted on board this vessel and the general machinery installation constructed and fitted in a satisfactory manner and to the Rule requirements and approved plans. The Machinery on completion has been tested and manoeuvred under working conditions and found satisfactory. The Machinery of this vessel is eligible in my opinion to be classed and to have the notation of "Oil Engines" and records of ~~8~~ L.M.C. 3,26 and C.H. in the Register Book.*

Certificate (if required) to be sent to

The amount of Entry Fee ... £	:	:	When applied for,
Special <i>Sitting aboard</i>	5000	:	13-3-1926
Donkey Boiler Fee <i>fitting & along</i>	250	:	When received,
Travelling Expenses (if any)	255.00	:	16-4-1926
<i>Interim cert</i>	420.00	:	
Committee's Minute		:	FRI. 19 MARCH 1926

Assigned

+ A. M. C. 2.26. C.L.P. Oil Engines

J. Joffe
 Engineer Surveyor to Lloyd's Register of Shipping.



Rpt. 4b
 Date of writ
 No. in S
 Reg. Book
 Built at
 Engines m
 Donkey B