

## REPORT ON OIL ENGINE MACHINERY.

No. 20205

Received at London Office  
 Writing Report 28/12/31 19... When handed in at Local Office 19... Port of **HAMBURG**  
 Survey held at **Hamburg** Date, First Survey **27-3-31** Last Survey **19-12-31** 19...  
 on the **Single** Screw vessel **HORN SHELL** (Oil Eng) Tons { Gross **8272**  
 { Net **4837**  
 at **Hamburg** By whom built **Deutsche Werft A-G.** Yard No. **146** When built **1931**  
 made at **Berlin** By whom made **A.E.G. Turbinenfabrik** Engine No. **333/3** When made **1931**  
 Boilers made at **Hamburg** By whom made **Deutsche Werft A-G.** Boiler No. **435/6** When made **1931**  
 Horse Power **2 x 2250** Owners **ANGLO SAXON PETROLEUM CO.** Port belonging to **London**  
 Horse Power as per Rule **984** Is Refrigerating Machinery fitted for cargo purposes **no** Is Electric Light fitted **yes**  
 for which vessel is intended **Tanker Trade**

ENGINES, &c.—Type of Engines **AEG-Burmeister & Wain** 2 or 4 stroke cycle **4** Single or double acting **single**  
 pressure in cylinders **32 kg/cm<sup>2</sup>** Diameter of cylinders **240 mm** Length of stroke **1300 mm** No. of cylinders **2 x 6** No. of cranks **2 x 6**  
 bearings, adjacent to the Crank, measured from inner edge to inner edge **Weight of balance weights 17,600 kgs** Is there a bearing between each crank **yes**  
 revolutions per minute **118** Flywheel dia. **2136 mm** Weight **2000 kgs** Means of ignition **Diesel system** Kind of fuel used **Heavy fuel oil**  
 Shaft, dia. of journals as per Rule **448 mm** Crank pin dia. **460 mm** Crank Webs Mid. length breadth **372 mm** Thickness parallel to axis **290 mm**  
 as fitted **460 mm** Mid. length thickness **190 mm** Thickness around eye-hole **201 mm**  
 Intermediate Shafts, diameter as per Rule **293 mm** Thrust Shaft, diameter at collars as per Rule **304 mm**  
 as fitted **460 mm** as fitted **340 mm** as fitted **380 mm**  
 Shaft, diameter as per Rule **323 mm** Is the **shaft** fitted with a continuous liner **yes**  
 as fitted **365 mm** as fitted **13.5 mm**  
 Liners, thickness in way of bushes as per Rule **17.5 mm** Thickness between bushes as per Rule **13.5 mm** Is the after end of the liner made watertight in the  
 as fitted **20 mm** as fitted **16 mm**  
 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**  
 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  
 If so, state type **yes** Length of Bearing in Stern Bush next to and supporting propeller **1700 mm**  
 dia. **4200 mm** Pitch **3300 mm** No. of blades **4** Material **bronze** whether Moveable **solid** Total Developed Surface **5.394** sq. feet  
 of reversing Engines **Direct** Is a governor or other arrangement fitted to prevent racing of the engine when declutched **yes** Means of lubrication  
 Thickness of cylinder liners **50-32 mm** Are the cylinders fitted with safety valves **yes** Are the exhaust pipes and silencers water cooled or lagged with  
 ducting 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 **yes**  
 each engine, **260 x 350 mm, 210 1/4"** Is the sea suction provided with an efficient strainer which can be cleared within the vessel **yes**  
 g Water Pumps, No. **1 each engine gear driven pp. 5464** Can one be overhauled while the other is at work **yes**  
 cool. oil pumps: **1 each engine gear driven pp. 5464** Diameter **150 mm** Stroke **350 mm**  
 Pumps worked from the Main Engines, No. **1 each** Can one be overhauled while the other is at work **yes**  
 s connected to the Main Bilge Line { No. and Size **2 duplex 8" x 8" x 10" in mach. space. 1 duplex 7 1/2" x 8" x 7" in foreship**  
 How driven **steam** **steam**  
 t Pumps, No. and size **2 duplex 8" x 8" x 10"** Lubricating Oil Pumps, including Spare Pump, No. and size **1 rotary each 2 1/2 tons 1 aux. steam 6" x 7" x 10"**  
 independent means arranged for circulating water through the Oil Cooler **yes** Suctions, connected to both Main Bilge Pumps and Auxiliary Bilge  
 No. and size:—In Machinery Spaces **4 of 20 mm, 1 of 125 mm, 1 of 200 mm, (internal dia)**  
 ds, &c. Pump room **2 x 65 mm, 1 x 80 mm, fore peak 1 x 125 mm, fore. Cofferd. 3 x 30 mm, fore hold. 3 x 65 mm**  
 dependent Power Pump Direct Suctions to the Engine Room Bilges, No. and size **1 x 125 mm**  
 the Bilge Suction pipes in Holds and Tunnel Well fitted with strum-boxes **yes** Are the Bilge Suctions in the Machinery Spaces  
 easily accessible mud-boxes, placed above the level of the working floor, with straight tail pipes to the bilges **yes**  
 Sea Connections fitted direct on the skin of the ship **yes** Are they fitted with Valves or Cocks **valves & cocks**  
 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 **above**  
 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**  
 pipes pass through the bunkers **heating coils** How are they protected **yes**  
 pipes pass through the deep tanks **cargo lines & heating coils** Have they been tested as per Rule **yes**  
 Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times **yes**  
 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  
 rtment to another **yes** Is the Shaft Tunnel watertight **mach. aft** Is it fitted with a watertight door **yes** worked from **yes**  
 wood vessel, what means are provided to prevent leakage of either fuel oil or of lubricating oil from saturating the woodwork **yes**  
 Air Compressors, No. **1 each engine** No. of stages **3** Diameters **750/150 mm** Stroke **460 mm** Driven by **crank shafts**  
 Auxiliary Air Compressors, No. **1** No. of stages **3** Diameters **470/251/157 mm** Stroke **305 mm** Driven by **2 cyl. steam eng.**  
 Auxiliary Air Compressors, No. **1** No. of stages **1** Diameters **150 mm** Stroke **150 mm** Driven by **1 cyl. steam eng.**  
 enging Air Pumps, No. **1** Diameter **150 mm** Stroke **150 mm** Driven by **1 cyl. steam eng.**  
 Auxiliary Engines crank shafts, diameter as per Rule **110 mm** as fitted **110 mm**

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

the internal surfaces of the receivers be examined **yes** What means are provided for cleaning their inner surfaces **covers on both ends**  
 ere a drain arrangement fitted at the lowest part of each receiver **yes**  
 Pressure Air Receivers, No. **1 each engine** Cubic capacity of each **400 liters** Internal diameter **450 mm** thickness **21 mm**  
 less, lap welded or riveted longitudinal joint **seamless** Material **S.M. Steel** Range of tensile strength **42.7-43 kg/mm<sup>2</sup>** Working pressure by Rules **92.8 kg/cm<sup>2</sup>**  
 ting Air Receivers, No. **4** Total cubic capacity **40 m<sup>3</sup>** Internal diameter **1500/1550 mm** thickness **21 mm**  
 less, lap welded or riveted longitudinal joint **yes** Material **O.H. Steel** Range of tensile strength **41-47 kg/mm<sup>2</sup>** Working pressure by Rules **25.3 kg/cm<sup>2</sup>**  
 Sub plates

W172-0015



IS A DONKEY BOILER FITTED?

yes

If so, is a report now forwarded?

yes

PLANS. Are approved plans forwarded herewith for Shafting

18-2-31

Receivers 21-2-31, 4-11-30 Separate Tanks 25-3-31

(If not, state date of approval)

Donkey Boilers

4/12/30

General Pumping Arrangements

14-5-31, 3-6-31, 12-8-31

Oil Fuel Burning Arrangements

10-11-31

SPARE GEAR

As per Rules. A number of parts in addition.

DEUTSCHE WERFT

The foregoing is a certificate of approval

ARTIFICEBELLSCHAF

Prof. J. J. J. J.

Manufacturer.

Dates of Survey while building  
During progress of work in shops - 1931: 22/3, 9/4, 22/5, 3-9-19/6, 14-18-21-31/7, 10-17-26-31/8, 4-12/9  
During erection on board vessel - 30/9, 5-9-12-13-21-23/10, 4-9-16-30-24/11, 7-11-12-16-17-19/12  
Total No. of visits 34

Dates of Examination of principal parts—Cylinders 4-11-31 Covers 4-11-31 Pistons 4-11-31 Rods 4-11-31 Connecting rods 4-11-31

Crank shaft 13-10-31 Flywheel shaft 26-8-31 Thrust shaft 26-8-31 Intermediate shafts 26-8-31 Tube shaft -

Screw shaft 26-8-31 Propeller 12-12-31 Stern tube 26-8-31 Engine seatings 30-9-31 Engines holding down bolts 12-10-31

Completion of fitting sea connections 12-9-31 Completion of pumping arrangements 7-12-31 Engines tried under working conditions 12-12-31

Crank shaft, Material O.H. Steel Identification Mark F.S. 25/10/30 No. 1081-1083, 2934-6 Flywheel shaft, Material O.H. Steel Identification Mark 1262/63 F.S.

Thrust shaft, Material O.H. Steel Identification Mark 1261/64 F.S. 1532 Intermediate shafts, Material O.H. Steel Identification Marks 1221/24/25 F.S.

Tube shaft, Material - Identification Mark - Screw shaft, Material O.H. Steel Identification Mark 1221/23/25 F.S.

Is the flash point of the oil to be used over 150° F. yes

Have the requirements of the Rules for oil fuel pipes and tank fittings been complied with yes

Is the vessel (not being an oil tanker) fitted for carrying oil as cargo tanker

If so, have the requirements of the Rules been complied with 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. These main engines have built under Special

Survey at Berlin (Please see Stettin Report No. 1013) and have been fitted on board at Hamburg

accordance with the approved plans, the Secretary's letters and otherwise in conformity with the requirements of the Rules. The machinery has given full satisfaction under working and manoeuvring conditions during a 20 hours trial trip and is eligible in my opinion for notification of +LMC-12.31, Oil F.

TS(CU)-

Description of Pumps (Steam Driven)

	Spare piston cooling Pp.	Spare Lub. pump.	Ballast pumps	Fuel oil transfer	Cargo Pump	Stripping Pump	Forepeak Ballastp.	form. Fuel oil transp.
No and type	1 Duplex	1 Duplex	2 duplex	2 duplex	2 duplex	1 Dupl.	1 dupl.	1 Dupl.
Ø of steam Cyl.	8"	6"	8"	6"	14"	6"	7 1/2"	7 1/2"
" " pump Cyl.	8"	7"	8"	5"	12"	7 1/2"	8"	8"
stroke	10"	10"	10"	6"	24"	6"	7"	7"

The amount of Entry Fee 1/5 £ 1 : 4 : When applied for, 22-12-1931  
Special ... 1/5 £ 24 : 17 :  
Donkey Boiler Fee ... 1/5 £ 16 : 2 :  
4 Air Receivers £ 16 : 16 :  
Travelling Expenses (if any) £ 8 : 11 :  
When received, 22.1.1932

Committee's Minute

Assigned

TUE. 5 JAN 1932

+ LMC 12.31

CERTIFICATE WRITTEN

Engineer Surveyor to Lloyd's Register of Shipping

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Lloyd's Register

Foundation