

REPORT ON OIL ENGINE MACHINERY

No. 22902

SEP 19 1938

Received at London Office

Date of writing Report 30 SEPT 1938 When handed in at Local Office

Port of Hamburg

No. in Survey held at Kice & HAMBURG
Reg. Book.

Date, First Survey 10 SEPT 1938

Last Survey 10 SEPT 1938

Number of Visits 1

Name: Kice & Hamburg

Single
on the Twin
Triple
Quadruple
Screw vessel

ARTHUR F. CORWIN

Tons { Gross 10516
Net 6077

Built at Hamburg

By whom built Blohm & Voß

Yard No. 573 When built 1938

Engines made at Kice

By whom made F. Krupp Germaniawerft A.G. Engine No. 5746 When made 1938

Donkey Boilers made at HAMBURG

By whom made BLOHM & VOß

Boiler No. When made 1938

Brake Horse Power 3600

Owners ORIENTAL TANKERS LTD.

Port belonging to LONDON

Nom. Horse Power as per Rule 912

Is Refrigerating Machinery fitted for cargo purposes 710

Is Electric Light fitted yes.

Trade for which vessel is intended CARRYING PETROLEUM IN BULK

OIL ENGINES, &c.—Type of Engines Heavy Oil, Krupp's 60/125 C2A 2 or 4 stroke cycle 2 Single or double acting single

Maximum pressure in cylinders 45 kg/cm²

Diameter of cylinders 650 mm

Length of stroke 1250 mm

No. of cylinders 8

No. of cranks 8

Mean Indicated Pressure 5.4 kg/cm²

Span of bearings, adjacent to the Crank, measured from inner edge to inner edge 1035 mm

Is there a bearing between each crank yes

Revolutions per minute 110

Flywheel dia. 2240 mm

Weight 5270 kg

Means of ignition Diesel syst.

Kind of fuel used Diesel Oil

Crank
Shaft,{ Solid forged
Semi built
All builtdia. of journals as per Rule 408 mm
as fitted 430 mm

Crank pin dia. 430 mm

Crank Webs

Mid. length breadth

Mid. length thickness 270 mm

Thickness parallel to axis 270 mm
Thickness around eye-hole 188 mmFlywheel Shaft, diameter as per Rule 408 mm
as fitted 430 mmIntermediate Shafts, diameter as per Rule 329 mm
as fitted 352 mmThrust Shaft, diameter at collars as per Rule 346 mm
as fitted 430 mmTube Shaft, diameter as per Rule
as fittedScrew Shaft, diameter as per Rule 368 mm
as fitted 398 mm

Is the

{ screw

shaft fitted with a continuous liner

yes

Bronze Liners, thickness in way of bushes as per Rule 20 mm
as fitted 23 mmThickness between bushes as per Rule 15 mm
as fitted 18 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

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

If two liners are fitted, is the shaft lapped or protected between the liners

Is an approved Oil Gland or other appliance fitted at the after end of the tube

shaft If so, state type

Length of Bearing in Stern Bush next to and supporting propeller 2000 mm

Propeller, dia. 5000 mm

Pitch 3940 mm

No. of blades 4

Material Bronze

whether Moveable no

Total Developed Surface 8.64 sq. m

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 50 mm

Are the cylinders fitted with safety valves yes

Are the exhaust pipes and oilcooler 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 funnel

Cooling Water Pumps, No. 3

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 225 mm

Stroke 200 mm

Can one be overhauled while the other is at work

Pumps connected to the Main Bilge Line

No. and Size 1 Dupl. 225 mm

How driven main engs

85% = 1 of 340 x 260 mm 105% = 1 of 220 x 240 mm 85% = 1 of 220 x 240 mm

Spare 1 of 170 x 200 mm 40 mm

Spare 1 of 170 x 200 mm 40 mm

Spare 1 of 170 x 200 mm 40 mm

Spare 1 of 170 x 200 mm 40 mm

Is the cooling water led to the bilges

If so, state what special arrangements are made to deal with this water in addition to the ordinary bilge pumping

arrangements

Bilge Pumps, No. and size 2. size P.T.O.

Power Driven Lubricating Oil Pumps, including Spare Pump, No. and size Auxiliary of 30 m³/h

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 2 of 90 mm from D.B. Suction: 2 of 90 mm from after Cofferdam 2 of 90 mm In Pump Room 2 of 90 mm

In Holds, &c. 2 of 125 mm from D.B. Suction: 2 of 125 mm from D.B. Suction: 2 of 125 mm from D.B. Suction: 2 of 125 mm

Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size 1-250 mm - 1 of 125 mm

Are all the Bilge Suction pipes in Holds and Tunnels 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 and 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 above

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

How are they protected

What pipes pass through the deep tanks cargo lines

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 machinery all

Is it fitted with a watertight door

worked from

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

Main Air Compressors, No. none

No. of stages

Diameters

Stroke

Driven by

Auxiliary Air Compressors, No. 1

No. of stages 2

Diameters 2-240 mm, 2-200 mm

Stroke 255 mm

Driven by Steam Engine

Small Auxiliary Air Compressors, No. 1

No. of stages 2

Diameters 165/75 mm

Stroke 150 mm

Driven by Steam Engine

What provision is made for first Charging the Air Receivers

Steam driven Air Compressor

Scavenging Air Pumps, No. 4

Diameter 750 mm

Stroke 1250 mm

Driven by

Grackles of Nos. 1-3-5-7 crosshds.

Auxiliary Engines crank shafts, diameter as per Rule

as fitted

General 90 mm Comp. 115/110 mm

No. 2 Generators

Position Engine Room

Not forward - 16 forward

Have the Auxiliary Engines been constructed under special survey

yes

Is a report sent herewith

yes

Lloyd's Register

Foundation

W1180 - 0126

AIR RECEIVERS:—Have they been made under survey

Is each receiver, which can be isolated, fitted with a safety valve as per Rule

Can the internal surfaces of the receivers be examined and cleaned

Injection Air Receivers, No. *solid injection* Cubic capacity of each

Seamless, lap welded or riveted longitudinal joint

Starting Air Receivers, No. 2

Total cubic capacity 28 m³

Internal diameter 1248 mm

Thickness 26 mm

Seamless, lap welded or riveted longitudinal joint

Material 0.4 Steel

Range of tensile strength 41-47 kg/mm²

Working pressure by Rules 30 kg/cm²

Actual 28 kg/cm²

IS A DONKEY BOILER FITTED?

Is the donkey boiler intended to be used for domestic purposes only

PLANS. Are approved plans forwarded herewith for Shafting

(If not, state date of approval)

Receivers 22.4.36 - 24.7.36

Separate Fuel Tanks 17.10.35

Donkey Boilers

General Pumping Arrangements

Pumping Arrangements in Machinery Space

Oil Fuel Burning Arrangements 17.3.37 (Esso Bolivar)

SPARE GEAR.

Has the spare gear required by the Rules been supplied

State the principal additional spare gear supplied 1 crank throw without journals, 1 set of piston cooling water pipes, 2 top and 2 bottom end brasses, 24 thrust block pads, 1 piston complete with skirt, 2 piston crowns, 2 crosshead lub. oil pumps, 2 main bearing brasses, 1 cylinder liner, 1 cyl. cover without valves, 2 compl. Archapump, 1 armature with shaft for turning gear.

DESCRIPTION OF CARGO PPS. 3 main of 454 t/2. 480 x 380 mm - 2 Hammer Mills 193 t/2 - 400 x 280 mm
2 Dec tank PPS - 193 t/2 - 390 x 260 mm - 2 Stripper PPS - 193 t/2 - 390 x 260 mm

The foregoing is a correct description.

Hamburg.

Lutterlin

Manufacturer.

Dates of Survey while building
During progress of work in shops - 1937-10-5 to 20-25-37
During erection on board vessel - 1938-5-7 to 10-11-38
Total No. of visits - 12-1

Dates of Examination of principal parts - Cylinders 4-7-18/2-38 Covers 11/2-38 Pistons 22/10-37 Rods 31/1-38 Connecting rods 21/2-38

Crank shaft 22/9-37 Flywheel shaft 22/9-37 Thrust shaft 22/9-37 Intermediate shafts 20/11-37 - 17/4-38 Tube shaft -

Screw shaft 14/4-26/4-38 Propeller 11/2-38 Stern tube 29/5-11/7-38 Engine seatings 14/4-38 Engines holding down bolts 26-28/6-38

Completion of fitting sea connections 15/2-38 Completion of pumping arrangements 12/8-38 Engines tried under working conditions 22/8-23/8-38

Crank shaft, Material 0.4 Steel Identification Mark 133524 M.B. 13/10-37 Flywheel shaft, Material See crankshaft Identification Mark No 3584-BS.833

Thrust shaft, Material 0.4 Steel Identification Mark 13382 M.B. 13/10-37 Intermediate shafts, Material S.M. STEEL Identification Marks 1316-17.6

Tube shaft, Material - Identification Mark - Screw shaft, Material S.M. STEEL Identification Mark No 628-V.S.24.6

Is the flash point of the oil to be used over 150° F. yes Spare: No 440-V.S.42.5

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 lumber If so, have the requirements of the Rules been complied with yes

If the notation for Ice Strengthening is desired, state whether the requirements in this respect have been complied with Main motor duplicate of Esso Bolivar

Is this machinery duplicate of a previous case yes If so, state name of vessel 1 & SENTINOLE. HAM Reg. 21912

General Remarks (State quality of workmanship, opinions as to class, etc.) material and workmanship of this machinery

are of good quality and the outfit is ample. The materials used in the construction

are made at works recognized by the Committee and have been tested by the

Society's Surveyors in compliance with the Rules. It has been constructed at Kiel.

Frd. Krupp. F.G. Germania-Werft under Special Survey in accordance with the

approved plans, the Secretary's Letters and otherwise in conformity with the re-

quirements of the Rules. It has been fitted on board by Messrs. Glöckner & Von at

Hamburg and has given full satisfaction under working and manoeuvring

conditions during a 12 hours trial trip and is eligible in my opinion

for notation "I-2 NTC-838" - Oil Eng. - T.S.C.

The amount of Entry Fee 96.724

Special 1930.448

Donkey Boiler Fee 174.60

Travelling Expenses (if any)

Committee's Minute

Assigned + LMC 8.38

Oil Eng. DB (form) 206 lb.

2 DB (alt) 200 lb. CL.

When applied for, 1938-5-19

When received, 1938-5-19

1938-5-19

1938-5-19

1938-5-19

1938-5-19

1938-5-19

1938-5-19

1938-5-19

1938-5-19

1938-5-19

1938-5-19

1938-5-19

1938-5-19

1938-5-19

1938-5-19