

Rpt. 4b.

## REPORT ON OIL ENGINE MACHINERY.

No. 21883

-4 MAY 1936

Date of writing Report 25/4/36 19 When handed in at Local Office

Received at London Office

19 Port of Hamburg

No. in Survey held at Kiel  
Reg. Book.

Date, First Survey 14/6/35

Last Survey 7/4/36 19

Number of Visits 51

393 19 on the <sup>Single</sup>  
<sup>Twin</sup>  
<sup>Triple</sup>  
<sup>Quadruple</sup> Screw vessel"Narragansett"Tons { Gross 10389  
Net 5940

Built at Kiel

By whom built Fr. Krupp Germaniawerft A.G.

Yard No. 540 When built 1936

Engines made at Kiel

By whom made Fr. Krupp Germaniawerft A.G.

Engine No. 5091 When made 1936

Donkey Boilers made at Kiel

By whom made Fr. Krupp Germaniawerft A.G.

Boiler No. 38739 When made 1936

Brake Horse Power 3600

Owners British-Mexican Petrol Co. Ltd.

Port belonging to London

Nom. Horse Power as per Rule 912

Is Refrigerating Machinery fitted for cargo purposes no

Is Electric Light fitted yes

Trade for which vessel is intended

Tanker service. 2 1/2

49 1/2

OIL ENGINES, &amp;c.—Type of Engines Krupp, type 65/15 e2

2 or 4 stroke cycle 2 Single or double acting single

Maximum pressure in cylinders 45 kg/cm<sup>2</sup> Diameter of cylinders 650 mm

Length of stroke 1200 mm

No. of cylinders 8

No. of cranks 8

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, dia. of journals as per Rule 408 mm

as fitted 430 mm

Crank pin dia. 430 mm

Crank Webs

Mid. length breadth semi built

Thickness parallel to axis 270 mm

Flywheel Shaft, diameter as per Rule 408 mm

as fitted 430 mm

Intermediate Shafts, diameter as per Rule 329 mm

as fitted 352 mm

Thrust Shaft, diameter at collars as per Rule 346 mm

as fitted 430 mm

Tube Shaft, diameter as per Rule

as fitted

Screw Shaft, diameter as per Rule 363 mm

as fitted 398 mm

Is the tube screw shaft fitted with a continuous liner yes

Bronze Liners, thickness in way of bushes as per Rule 20 mm

as fitted 23 mm

Thickness 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

If so, state type

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

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 Movable solid

Total Developed Surface 8.64 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

Thickness of cylinder liners 50 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

Cooling Water Pumps, No. 3 main driven for fresh

Is the sea suction provided with an efficient strainer which can be cleared within the vessel yes

What special arrangements are made for dealing with cooling water if discharged into bilges

Bilge Pumps worked from the Main Engines, No. 1

Stroke

Diameter 200 mm

Stroke 225 mm

Can one be overhauled while the other is at work

Pumps connected to the Main Bilge Line

No. and Size

1 of 225 mm

1 of 60 mm

1 of 220 mm

1 of 105 mm

1 of 390 mm

1 of 260 mm

1 of 450 mm

Cargo 1 Stripper: 100 mm

How driven main shafting

steam

Power Driven Lubricating Oil Pumps, including Spare Pump, No. and size

1 of 30 mm

1 of 100 mm

1 of 42 mm

1 of 100 mm

1 of 100 mm

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

3 x 90 mm

In Pump Room

2 x 200 mm

2 x 200 mm

2 x 200 mm

In Holds, etc. For pump room: 2 x 60 mm

Cargo hold: 2 x 60 mm

Chain Cocker: 2 x 60 mm

For store rooms: 2 x 60 mm

Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size

1 of 250 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

fitted 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 &amp; 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

heating coils

How are they protected

yes

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

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

Is the Shaft Tunnel watertight

made aft

Is it fitted with a watertight door

worked from

Main Air Compressors, No. solid injection

No. of stages

Diameters

Stroke

Driven by

Auxiliary Air Compressors, No. 1

No. of stages 2

Diameters 2 x 240, 2 x 205

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

Scavenging Air Pumps, No. 4

Diameter 780 mm

Stroke 1250 mm

Driven by

Auxiliary Engines crank shafts, diameter as per Rule Atlaswerke's Standard type

as fitted 90 mm

No. 2

Position

Engine room, pt. forward.

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 and cleaned

manholes &amp; doors

Is a drain 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

Material

Range of tensile strength

Working pressure

Starting Air Receivers, No. 2

Total cubic capacity 28 m<sup>3</sup>

Internal diameter 1300 mm

Thickness 26 mm

Circular and

Material 0.4 Steel

Range of tensile strength 41-47 kg/cm<sup>2</sup>

Working pressure

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Working pressure



IS A DONKEY BOILER FITTED?

yes

If so, is a report now forwarded?

yes

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

no

PLANS. Are approved plans forwarded herewith for Shaping

18/4/35, 13/3/34

Receivers 14/5/35

Separate Tanks 17/10/35

Donkey Boilers 7.8.35, 17.6.35, 19.9.35

General Pumping Arrangements 26/10/35

Oil Fuel Burning Arrangements 26/10/35

### SPARE GEAR.

Has the spare gear required by the Rules been supplied

yes

State the principal additional spare gear supplied

1 Crank throw without journals. 1 set of telescope piston cooling pipes. 2 top & 2 bottom end  
brasses. 24 thrust block pins. 1 piston compl. with skirt. 2 piston crowns. 2 crosshead lub. oil pumps.  
2 main bearing brasses. 2 cylinder liners. 2 cylinder covers without valves. 1 fuel oil injection  
valve. 1 starting valve. 1 safety valve. 1 armature with shaft for turn gear.  
For manv. compressor. 1 main bearing. 1 bottom end brass. 1 gudgeon pin with bush. 1  
piston compl. 2 air coolers. 1 valve chest. 1 cylinder liner. 1 L.P. cylinder cover.  
A considerable number of parts for all types of pumps.

The foregoing is a correct description.

**FRIED. KRUPP  
GERMANIA WERFT**

Aktiengesellschaft.

Manufacturer.

Dates of Survey while building  
During progress of work in shops - 1935: June: 14, July: 19, 27, Aug: 7, 9, 16, 23, 26, 30 Sept: 7, Oct: 9, 11, 18, 22, 25, 30 Nov: 5, 8, 11, 13, 15, 19, 22, 28, 30 Dec: 6, 13, 20  
During erection on board vessel - 1936, Jan: 3, 7, 10, 14, 17, 21, 24  
Total No. of visits 51

Dates of Examination of principal parts - Cylinders 22.10.35, 30.10.35 Covers 19-22.11.35 Pistons 25.10.35 Rods 30.10.35 Connecting rods 29.11.35

Crank shaft 30.10.35 Flywheel shaft 30.10.35 Thrust shaft 30.10.35 Intermediate shafts 24.8.36 Tube shaft

Screw shaft 10.1.36 Propeller 17.1.36 Stern tube 9.9.35 Engine seatings on tank top Engines holding down bolts 19.2.36

Completion of fitting sea connections 10.1.36 Completion of pumping arrangements 24.3.36 Engines tried under working conditions 7.4.36

Crank shaft, Material O.H. Steel Identification Mark 11481-2 M.B. 16.10.35 Flywheel shaft, Material O.H. Steel Identification Mark 11480 M.B. 16.10.35

Thrust shaft, Material O.H. Steel Identification Mark 11480 M.B. 16.10.35 Intermediate shafts, Material O.H. Steel Identification Marks 10234-5 J.L. 28.12.35

Tube shaft, Material Identification Mark Screw shaft, Material O.H. Steel Identification Mark 10194 J.L. 19.12.35

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

If the notation for Ice Strengthening is desired, state whether the requirements in this respect have been complied with

Is this machinery duplicate of a previous case yes If so, state name of vessel "H.B. Walker" (with a few exceptions)

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 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 Society's Rules. It has been constructed under Special Survey in accordance with the approved plans, the Secretary's letters and otherwise in compliance with the requirements of the Rules. During the trial trip the machinery has given satisfaction under full working and manœuvring conditions. In my opinion the machinery is eligible for notation of

+ LMC - 4.36 (Oil Eng) and T.5 (CL)

The amount of Entry Fee Rmk. 120.-

Special ... £2412.-

Donkey Boiler Fee ... £804.-

Travelling Expenses (if any) £390.-

When applied for.

When received.

20.5.1936

Committee's Minute

Assigned

+ LMC 4.36 Oil Engines  
3 D.B. 200 lbs C.L.

Engineer Surveyor to Lloyd's Register of Shipping.



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Foundation