

REPORT ON OIL ENGINE MACHINERY.

No. 54511.

Received at London Office 8 - JAN 1948

Date of writing Report 27th Oct 1947 When handed in at Local Office 7 JAN 1948 Port of **HULL**

Survey held at **Hull** Date, First Survey 15. 9. 47. Last Survey 30. 10. 1947. Number of Visits 17.

6910 on the ^{Single} ~~Turn~~ ^{Triple} ~~Quadruple~~ Screw vessel **EMPIRE CONLEA.** Tons ^{Gross} ~~Net~~

built at **Rendsburg** By whom built **Werft Nobiskrug** Yard No. - When built **1939**

Engines made at **Kiel** By whom made **Deutsche Werke Kiel AG** Engine No. - When made **1938**

Monkey Boilers made at **✓** By whom made **✓** Boiler No. **✓** When made **✓**

Brake Horse Power **165** Owners **Jepperson Heaton & Co.** Port belonging to **London**

Com. Horse Power as per Rule **474** Is Refrigerating Machinery fitted for cargo purposes **No** Is Electric Light fitted **Yes**

Trade for which vessel is intended **Coastal**

ENGINES, &c. Type of Engines **Diesel** Type **MU 421** 2 or 4 stroke cycle **4** Single or double acting **Single**

Maximum pressure in cylinders **45 Atmos.** Diameter of cylinders **280 mm** Length of stroke **4207** No. of cylinders **4** No. of cranks **4**

Indicated Pressure **13 3/4"** Is there a bearing between each crank **Yes**

Revolutions per minute **About 300** Flywheel dia. **3'-6 1/2"** Weight **5 1/2" thick** Means of ignition **Compression** Kind of fuel used **Diesel oil**

ank Shaft, ^{Solid forged} ~~Semi built~~ ^{as per Rule} ~~as fitted~~ 1697 Crank pin dia. **1697** Crank Webs **10"** Mid. length breadth **3 1/2"** Thickness parallel to axis **✓**

Wheel Shaft, diameter **as per Rule** **as fitted** 1697 **CLUTCH & REVERSING** Intermediate Shafts, diameter **as per Rule** **as fitted** 5 1/2" O.D. Thrust Shaft, diameter **(No collars)** **as per Rule** **as fitted** 4 3/4"

be Shaft, diameter **as per Rule** **as fitted** 5 1/4" 5 1/6" Is the **✓** screw **✓** shaft fitted with a continuous liner **No**

onze Liners, thickness in way of bushes **as per Rule** **as fitted** **✓** Thickness between bushes **as per Rule** **as fitted** **✓** Is the after end of the liner made watertight in the **✓**

eller boss **✓** If the liner is in more than one length are the junctions made by fusion through the whole thickness of the liner **✓**

he 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 **✓**

wo 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 **✓**

No - **soft packing gland.** If so, state type **✓** Length of Bearing in Stern Bush next to and supporting propeller **21"**

opeller, dia. **4'-11"** Pitch **4** No. of blades **4** Material **Brongze** whether Moveable **No** Total Developed Surface **sq. feet**

ethod of reversing Engines **Reversing gear** Is a governor or other arrangement fitted to prevent racing of the engine when declutched **Yes** Means of lubrication **✓**

ssure Thickness of cylinder liners **Not accessible** Are the cylinders fitted with safety valves **No - see report.** Are the exhaust pipes and silencers water cooled or lagged with **✓**

conducting material **Water cooled** If the exhaust is led overboard near the waterline, what means are arranged to prevent water from being syphoned back to the engine **✓**

oling Water Pumps, No. **1** - **3 1/2" dia** Is the sea suction provided with an efficient strainer which can be cleared within the vessel **Yes**

ge Pumps worked from the Main Engines, No. **1** Diameter **3 1/2"** Stroke **4"** Can one be overhauled while the other is at work **is rotating cocks fitted.**

aps connected to the Main Bilge Line **No. and Size** **1 Antirip 3" bore suction & delivery.** **How driven** **Clutch connection to aux. diesel engine.**

he cooling water led to the bilges **Aux. compressor only** If so, state what special arrangements are made to deal with this water in addition to the ordinary bilge pumping **✓**

gements **No special arrangement.** (**1/2" bore pipe with shut off valve to compressor**)

ast Pumps, No. and size **On above** Power Driven Lubricating Oil Pumps, including Spare Pump, No. and size **No independent pump.**

wo independent means arranged for circulating water through the Oil Cooler **Yes** Suctions, connected to both Main Bilge Pumps and Auxiliary Bilge **✓**

ps, No. and size: - In Machinery Spaces **2 - 2 1/2"** In Pump Room **1 - 2 1/2" (ft) through bilge**

olds, &c. **2 - 2"** **F. Peak 2" A. Peak 2"**

ependent Power Pump **✓** Suctions to the Engine Room Bilges, No. and size **1 - 2 1/2" (solid.)** **Through valve**

all the Bilge Suction pipes in Holds and ~~Tunnel~~ **Well** fitted with strum-boxes **Yes** Are the Bilge Suctions in the Machinery Spaces **No (See remarks)**

rom easily accessible mud-boxes, placed above the level of the working floor, with straight tail pipes to the bilges **✓**

ll Sea Connections fitted direct on the skin of the ship **Short stand pipes** **✓** Are they fitted with Valves or Cocks **Valves**

hey fixed sufficiently high on the ship's side to be seen without lifting the platform plates **P. Yes, S. No.** Are the Overboard Discharges above or below the deep water line **Above**

hey each fitted with a Discharge Valve always accessible on the plating of the vessel **Yes - except for main engine discharge which is fitted direct to short stand pipe welded to ship plating.** Are the Blow Off Cocks fitted with a spigot and brass covering plate **✓**

pipes pass through the bunkers **✓** How are they protected **✓**

pipes pass through the deep tanks **✓** Have they been tested as per Rule **✓**

ll 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 **✓** Is it fitted with a watertight door **✓** worked from **✓**

ood vessel, what means are provided to prevent leakage of either fuel oil or of lubricating oil from saturating the woodwork **✓**

Air Compressors, No. **1** No. of stages **2** Diameters **1 1/8, 4 3/8"** Stroke **2 3/8"** Driven by **Main engine**

ary Air Compressors, No. **1** No. of stages **2** Diameters **1" 2 3/4"** Stroke **2 1/2"** Driven by **Aux. diesel engine**

Auxiliary Air Compressors, No. **✓** No. of stages **✓** Diameters **✓** Stroke **✓** Driven by **✓**

provision is made for first Charging the Air Receivers **Aux. diesel is hand starting.**

nging Air Pumps, No. **✓** Diameter **✓** Stroke **✓** Driven by **✓**

ary Engines crank shafts, diameter **as per Rule** **as fitted** **See separate report.** No. **✓** Position **✓**

he Auxiliary Engines been constructed under special survey **No** Is a report sent herewith **Yes**

AIR RECEIVERS:—Have they been made under survey No State No. of Report or Certificate ✓
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 Yes Is a drain fitted at the lowest part of each receiver Yes
Injection Air Receivers, No. ✓ Cubic capacity of each ✓ Internal diameter ✓ thickness ✓
Seamless, lap welded or riveted longitudinal joint ✓ Material ✓ Range of tensile strength ✓ Working pressure by Rules ✓
Starting Air Receivers, No. 1 (main) Total cubic capacity 200 LTR Ex 15 1/4" thickness 0.36"
Seamless, lap welded or riveted longitudinal joint Seamless Material Steel Range of tensile strength ✓ Working pressure by Rules 585
Actual 560 lb

IS A DONKEY BOILER FITTED? No If so, is a report now forwarded? ✓
Is the donkey boiler intended to be used for domestic purposes only ✓
PLANS. Are ✓ plans forwarded herewith for Shafting Yes Receivers Yes Separate Fuel Tanks Yes
(If not, state date of approval)
Donkey Boilers ✓ General Pumping Arrangements Yes Pumping Arrangements in Machinery Space Yes
Oil Fuel ~~Burning~~ Arrangements Yes SPARE GEAR.
Has the spare gear required by the Rules been supplied Yes - for vessels engaged on short voyages.
State the principal additional spare gear supplied None

The foregoing is a correct description,

Manufacturer.

Dates of Survey while building { During progress of work in shops - -
During erection on board vessel - - -
Total No. of visits

Dates of Examination of principal parts—Cylinders Covers Pistons Rods Connecting rods
Crank shaft Flywheel shaft Thrust shaft Intermediate shafts Tube shaft
Screw shaft 23-9-47 Propeller Stern tube Engine seatings Engines holding down bolts
Completion of fitting sea connections Completion of pumping arrangements Engines tried under working conditions
Crank shaft, Material Identification Mark Flywheel shaft, Material Identification Mark
Thrust shaft, Material Identification Mark Intermediate shafts, Material Identification Marks
Tube shaft, Material Identification Mark Screw shaft, Material Identification Mark
Identification Marks on Air Receivers (main)

200 LTR
BETNESBN 40 ATM
PROBEDR 80 ATM
5-92 3-38 92L
NR. 111764 D

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 No - see remarks.
Is the vessel (not being an oil tanker) fitted for carrying oil as cargo No If so, have the requirements of the Rules been complied with ✓
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 No If so, state name of vessel ✓

General Remarks (State quality of workmanship, opinions as to class, &c.)
The after bilge suction in the engine room is just a pipe bent down into the bilge and terminating in a strainer box. The fore suction has a non-return valve with straight tail piece to strainer box. The after suction should be amended to comply with the Rules but it is submitted that the fore suction could be accepted as this could be cleared by removing cover of N.R. valve.
For other remarks & recommendations see our Rpt 9 of 17

The amount of Entry Fee	.. £	:	:	When applied for,
Special	£	:	19
Donkey Boiler Fee	£	:	When received,
Travelling Expenses (if any)	£	:	:	19

Committee's Minute
Assigned See minute on file rpt

M. Chambers.
Engineer Surveyor to Lloyd's Register of Shipping.

