

Rpt. 4b.

REPORT ON OIL ENGINE MACHINERY.

No. 4 4544
22 JAN 1937

Date of writing Report 16-1-1937 When handed in at Local Office

21 JAN 1937 Port of HULL Received at London Office

No. in Survey held at Reg. Book.

Goole

Date, First Survey 23rd Nov. 1936

Last Survey 12th Jan. 1937

on the ^{Single} ~~Double~~ ~~Triple~~ ~~Quadruple~~ Screw vessel

CHAGFORD

Number of Visits 8

Tons Gross 311 Net 164

Built at Goole By whom built Goole S. B. & Repg. Co. Ld. Yard No. 323 When built 1-37
 Engines made at Cologne By whom made Humboldt, Drutz & Co. A.G. Engine No. 39742 When made 1937
 Donkey Boilers made at None By whom made None Boiler No. None When made None
 Brake Horse Power 350 Owners H. Harrison (Shipping) Ld. Port belonging to London
 Nom. Horse Power as per Rule 70 Is Refrigerating Machinery fitted for cargo purposes None Is Electric Light fitted None
 Trade for which vessel is intended Coasting

OIL ENGINES, &c. Type of Engines Heavy Oil (R.V. 6. M. 343) 2 or 4 stroke cycle 4 Single or double acting S.A.

Maximum pressure in cylinders 50 kg/cm² Diameter of cylinders 280 mm Length of stroke 450 mm No. of cylinders 6 No. of cranks 6

Span of bearings, adjacent to the Crank, measured from inner edge to inner edge 307.5 mm Is there a bearing between each crank Yes

Revolutions per minute 350 Flywheel dia. 1250 mm Weight 2600 kg Means of ignition Comp^m Kind of fuel used Heavy oil

Crank Shaft, dia. of journals ^{as per Rule} 190 mm ^{as fitted} 190 mm Crank pin dia. 170 mm Crank Webs Mid. length breadth 325 mm Thickness parallel to axis shrunk

Flywheel Shaft, diameter ^{as per Rule} None ^{as fitted} None Intermediate Shafts, diameter ^{as per Rule} 4 3/8 ^{as fitted} 4 3/8 Thrust Shaft, diameter at collars ^{as per Rule} 140 mm ^{as fitted} 140 mm

Tube Shaft, diameter ^{as per Rule} None ^{as fitted} None Screw Shaft, diameter ^{as per Rule} 5 3/8 ^{as fitted} 5 3/8 Is the tube screw shaft fitted with a continuous liner None

Bronze Liners, thickness in way of bushes ^{as per Rule} None ^{as fitted} None Thickness between bushes ^{as per Rule} None ^{as fitted} None 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 Yes

If so, state type None Length of Bearing in Stern Bush next to and supporting propeller 20 1/2"

Propeller, dia. 64 Pitch 34 to 50 No. of blades 4 Material C.I. whether Moveable Solid Total Developed Surface 9.5 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 25 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 Up funnel

Cooling Water Pumps, No. One & connected to Bilge pumps 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 All overboard

Bilge Pumps worked from the Main Engines, No. One Diameter 100 mm Stroke 85 mm Can one be overhauled while the other is at work Yes

Pumps connected to the Main Bilge Line No. and Size One 100 x 85 mm How driven Main Engine 2 Retain 60 x 25 mm / h² respectively Aux. Engine

Ballast Pumps, No. and size All the above Power Driven Lubricating Oil Pumps, including Spare Pump, No. and size One & One spare seas type

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 @ 2 1/2" x 2 @ 2" dia In Pump Room None

In Holds, &c. Hold 2 @ 2 1/2" dia fore peak. One @ 3" dia None 1 DBT. 3 @ 3" dia None 2 DBT. 3 @ 3" dia None 1 @ 3" dia

Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size 2 @ 2 1/2" dia (included above)

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 Yes

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 None

What pipes pass through the bunkers None How are they protected None

What pipes pass through the deep tanks None Have they been tested as per Rule None

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 None Is it fitted with a watertight door None worked from None

If a wood vessel, what means are provided to prevent leakage of either fuel oil or of lubricating oil from saturating the woodwork None

Main Air Compressors, No. One No. of stages two Diameters 145 x 60 mm Stroke 85 mm Driven by Main Engine

Auxiliary Air Compressors, No. One No. of stages One Diameters 3 1/4 Stroke 3 1/4 Driven by Aux Engine

Small Auxiliary Air Compressors, No. (15 cu ft) No. of stages None Diameters None Stroke None Driven by (Hand starting)

Scavenging Air Pumps, No. None Diameter None Stroke None Driven by None

Auxiliary Engines crank shafts, diameter ^{as per Rule} See Annex Report No 13525 ^{as fitted} None No. One Position On side of Engine Room

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

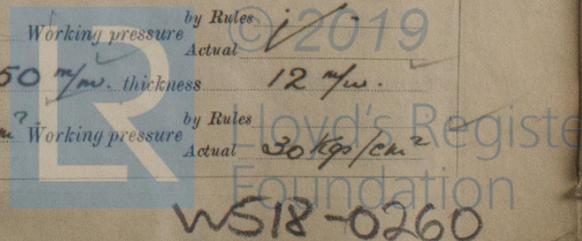
Can the internal surfaces of the receivers be examined and cleaned Yes Is a drain fitted at the lowest part of each receiver Yes

High Pressure Air Receivers, No. None Cubic capacity of each None Internal diameter None thickness None

Seamless, lap welded or riveted longitudinal joint None Material None Range of tensile strength None Working pressure by Rules None Actual None

Starting Air Receivers, No. 2 Total cubic capacity 1000 litres Internal diameter 450 mm thickness 12 mm

Seamless, lap welded or riveted longitudinal joint lap welded Material Steel Range of tensile strength 39.16/mm² Working pressure by Rules None Actual 30 kg/cm²



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 approved plans forwarded herewith for Shafting *13-2-35 49-3-36* Receivers *21-7-32* Separate Tanks *23-3-36*
 Donkey Boilers *None* General Pumping Arrangements *16-3-36* Oil Fuel Burning Arrangements

SPARE GEAR.

Has the spare gear required by the Rules been supplied

State the principal additional spare gear supplied *As per Dandelorf Report.*

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 *8*

1936. Nov. 25, 28. Dec. 21, 30. 1937. Jan. 6, 8, 11, 12.

Dates of Examination of principal parts	Cylinders	Covers	Pistons	Rods	Connecting rods
Crank shaft	<i>Done</i>	<input checked="" type="checkbox"/>	<i>Done</i>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Flywheel shaft	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Thrust shaft	<i>Done</i>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Intermediate shafts	<i>6.1.37</i>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Tube shaft	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Screw shaft	<i>23-11-36</i>	<i>28-11-36</i>	<i>23-11-36</i>	<i>28-11-36</i>	<i>8-1-37</i>
Propeller	<i>28-11-36</i>	<i>23-11-36</i>	<i>28-11-36</i>	<i>28-11-36</i>	<i>8-1-37</i>
Engines holding down bolts	<i>8-1-37</i>	<i>8-1-37</i>	<i>8-1-37</i>	<i>8-1-37</i>	<i>8-1-37</i>
Completion of fitting sea connections	<i>28-11-36</i>	<i>11-1-37</i>	<i>11-1-37</i>	<i>11-1-37</i>	<i>12-1-37</i>
Completion of pumping arrangements	<i>11-1-37</i>	<i>11-1-37</i>	<i>11-1-37</i>	<i>11-1-37</i>	<i>11-1-37</i>
Engines tried under working conditions	<i>12-1-37</i>	<i>12-1-37</i>	<i>12-1-37</i>	<i>12-1-37</i>	<i>12-1-37</i>
Crank shaft, Material	<i>Steel</i>	Identification Mark <i>11299.V.L.</i>	Flywheel shaft, Material	<i>Steel</i>	Identification Mark <i>K.H. C.S.P.</i>
Thrust shaft, Material	<i>Steel</i>	Identification Mark <i>548.HB.</i>	Intermediate shafts, Material	<i>Steel</i>	Identification Marks <i>K.H. C.S.P.</i>
Tube shaft, Material	<input checked="" type="checkbox"/>	Identification Mark <input checked="" type="checkbox"/>	Screw shaft, Material	<i>Steel</i>	Identification Mark <i>1099.C.S.P.</i>

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 *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 *No.*

Is this machinery duplicate of a previous case *Yes.* If so, state name of vessel *KESTOR. Hul Rpt No 47223.*

General Remarks (State quality of workmanship, opinions as to class, &c.)

The Machinery of this Vessel has been satisfactorily fitted on board under Special Survey & in accordance with the Rules & the approved plans and when tried under working conditions was found satisfactory in every respect. and is eligible, in my opinion, to be classed with the record of S.L.M.C. 1.37. 09, and to have the notations of "Oil Engine, 4-S.C.3A. 11" x 17 1/2" 4 Cy 70 NHP.

The amount of Entry Fee ... £ : : When applied for, ... 19

Special ... *See Def. Rpt.* : : When received, ... 19

Donkey Boiler Fee ... £ : : When received, ... 19

Travelling Expenses (if any) £ : : When received, ... 19

[Signature]
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute

TUE 26 JAN 1937

Assigned

*+ d.m.c. 1.37
 Oil Eng. 0.7*

