

REPORT ON OIL ENGINE MACHINERY.

No. 9282

12 FEB 1942

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No. in Survey held at Dundee Date, First Survey 14th July 1941 Last Survey 29th Jan^{ry} 1942 Reg. Book. Number of Visits 28

24538 on the Single ^{MOTOR} ~~Twin~~ ~~Triple~~ ~~Quadruple~~ Screw vessel R.F.A. "GREEN RANGER" Tons ^{Gross} 3313 _{Net} 1506

Built at Dundee By whom built Baledon S. B. & E. Co. Ltd Yard No. 391 When built 1942
Engines made at Dundee By whom made Wm. Duxford & Sons Ltd Engine No. 219 When made 1942
Donkey Boilers made at Dundee By whom made Baledon S. B. & E. Co. Ltd Boiler No. 591 When made 1942
Brake Horse Power 2800 Owners The Admiralty Port belonging to London
Nom. Horse Power as per Rule 598 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes
Trade for which vessel is intended Admiralty Oilers

II. ENGINES, &c.—Type of Engines 2 or 4 stroke cycle Single or double acting

Maximum pressure in cylinders Diameter of cylinders Length of stroke 18 3/4 No. of cylinders No. of cranks

Mean Indicated Pressure Span of bearings, adjacent to the Crank, measured from inner edge to inner edge Is there a bearing between each crank

Revolutions per minute Flywheel dia. 40^{1/2} ^{see Sld. Rpt. N 33178} ~~Weight~~ Means of ignition Kind of fuel used

Crank Shaft, ^{Solid forged} ~~Semi built~~ ~~All built~~ dia. of journals as per Rule as fitted Crank pin dia. Crank Webs Mid. length breadth Thickness parallel to axis
Mid. length thickness shrunk Thickness around eye-hole

Flywheel Shaft, diameter as per Rule as fitted Intermediate Shafts, diameter as per Rule Approved 18 3/4 in body 17 in at couplings Thrust Shaft, diameter at collars as per Rule as fitted

Tube Shaft, diameter as per Rule as fitted Screw Shaft, diameter as per Rule Approved 17 Is the ^{tube} ~~screw~~ shaft fitted with a continuous liner Yes

Bronze Liners, thickness in way of bushes as per Rule as fitted 27/32 Thickness between bushes as per Rule Approved 3/4 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 No If so, state type

Length of Bearing in Stern Bush next to and supporting propeller 4'-10"

Propeller, dia. 14'-0" Pitch 12'-1" No. of blades 4 Material Bronze whether Moveable Solid Total Developed Surface 48 sq. feet

Method of reversing Engines Is a governor or other arrangement fitted to prevent racing of the engine when declutched Means of lubrication

Thickness of cylinder liners Are the cylinders fitted with ^{see Sld. Rpt. N 33178} ~~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 Exhaust up funnel

Cooling Water Pumps, No. 1 - Main Eng. driven 120 tons/hr. 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. None Diameter Stroke Can one be overhauled while the other is at work

Pumps connected to the Main Bilge Line No. and Size 1 - 10 1/2" x 7 1/2" x 10" 1 - 10" x 11" x 10" How driven Steam-driven Steam-driven

Is the cooling water led to the bilges No If so, state what special arrangements are made to deal with this water in addition to the ordinary bilge pumping arrangements

Ballast Pumps, No. and size 1 - 10" x 11" x 10" Steam-driven Power Driven Lubricating Oil Pumps, including Spare Pump, No. and size 1 - 7' x 8" x 18" steam driven both 32 tons/hr.

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 1-2 1/2" P. 1-2 1/2" S. aft. 1-2 1/2" S. fwd. 1-2 1/2" tunnel well, 1-2" aft. cofferdam. In Pump Room 1-2" fwd. cofferdam

In Holds, &c. 1-3" in W/T Comp. Port. 1-3" in W/T Comp. Star. In fwd. hold 1-2 1/2" port. 1-2 1/2" star. In fwd. pump room & in aft. pump room 2" ejectors

Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size 1-4 1/2" from bilge pump stand. 1-4 1/2" from ballast pump port.

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, with tail pipes as straight & portable as possible

Are all Sea Connections fitted direct on the skin of the ship Piped thro' buoyancy spaces Are they fitted with Valves or Cocks on longitudinal bulkheads Yes

Are they fixed sufficiently high on the ship's side to be seen without lifting the platform plates ^{Yes} ~~bank tops~~ ~~accessible~~ Are the Overboard Discharges above or below the deep water line below

Are they each fitted with a Discharge Valve always accessible on the plating of the vessel Values on bks. Are the Blow Off Cocks fitted with a spigot and brass covering plate Yes

What pipes pass through the bunkers None How are they protected

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

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 Yes Is it fitted with a watertight door Yes worked from tops platform

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. 2 off- No. of stages tandem Diameters 11 1/2" x 6 1/2" Stroke Driven by Steam

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

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

What provision is made for first Charging the Air Receivers Compressors are steam driven

Scavenging Air Pumps, No. one Diameter 14 10 1/4 Stroke 1100 1/4 Driven by Main Engine

Auxiliary Engines crank shafts, diameter as per Rule as fitted Steam-driven No. 2-off. Position Fwd. End of Eng. Room 1 Port. 1 Star.

Have the Auxiliary Engines been constructed under special survey No Is a report sent herewith

AIR RECEIVERS:—Have they been made under survey *yes* 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. *None* Cubic capacity of each _____ Internal diameter _____ thickness _____
 Seamless, lap welded or riveted longitudinal joint _____ Material _____ Range of tensile strength _____ Working pressure by Rules _____ Actual _____

Starting Air Receivers, No. *2 off* Total cubic capacity *234 cub. ft.* Internal diameter *3'-4 1/2" inside course* Working pressure by Rules _____ Actual _____
 Seamless, lap welded or riveted longitudinal joint *T.R. Double Built Straps* Material *Steel* Range of tensile strength *29/33 tons* Working pressure by Rules *600 lbs* Actual *600 lbs*

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 *✓*

PLANS. Are approved plans forwarded herewith for Shafting *yes* Receivers *yes* Separate Fuel Tanks *yes*
 (If not, state date of approval) _____
 Donkey Boilers *yes* General Pumping Arrangements *With hull report* Pumping Arrangements in Machinery Space *yes*
 Oil Fuel Burning Arrangements *yes*

SPARE GEAR.

Has the spare gear required by the Rules been supplied } *is per list given on old Rpt No 33178 - no top & bottom end connecting rod bearings being supplied.*
 State the principal additional spare gear supplied }
In addition 1 set of coupling bolts of each size required, assorted studs, bolts iron etc. Spares for the auxiliary compressors & pumps as agreed upon in the Specⁿ. between Builders & Owners have also been supplied.

The foregoing is a correct description, *✓*

Manufacturer. _____

Dates of Survey while building { During progress of work in shops - - }
 { During erection on board vessel - - } *1941 July 17-29 Aug 13-15-19-21-27 Sept. 1-4-17-30 Oct. 3-9-13-16-21-24-29 Nov 7-14-18-21-25-28 Dec 2-4-1942 Jan 14-21*
 Total No. of visits *28*

Dates of Examination of principal parts—Cylinders _____ Covers _____ Pistons _____ Rods _____ Connecting rods _____
 Crank shaft _____ Flywheel shaft _____ Thrust shaft _____ Intermediate shafts _____ Tube shaft _____
 Screw shaft in place *13/8/41* Propeller in place *13/8/41* Stern tube in place *29-7-41* Engine seatings *13-8-41* Engines holding down bolts *9-10-41*
 Completion of fitting sea connections *13-8-41* Completion of pumping arrangements *28-11-41* Engines tried under working conditions *In dock 28-11-41 At sea 4-12-41*
 Crank shaft, Material _____ Identification Mark _____ Flywheel shaft, Material _____ Identification Mark _____
 Thrust shaft, Material _____ Identification Mark _____ Intermediate shafts, Material *Steel* Identification Marks _____
 Tube shaft, Material _____ Identification Mark _____ Screw shaft, Material *Steel* Identification Mark _____
 Identification Marks on Air Receivers *LLOYD'S TEST 800 lbs W.P. 600 lbs 4-9-41 J.H.*

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 *✓* 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 *yes* If so, state name of vessel *"Gold Ranger"*

General Remarks (State quality of workmanship, opinions as to class, &c.)
This Machinery - Old Rpt No 33178 on the Main Engines, & Dundee Rpts Nos 9284 & 9285 on the Donkey & Composite Boilers - has been efficiently fitted on board, the materials & workmanship being sound & good. The Main & Aux^y Machinery were tried out under full power & working conditions, & were found satisfactory in all respects. Manoeuvring tests were carried out & the capacity of the air receivers was found to be considerably in excess of Rule requirements.

In my opinion the Machinery of this vessel is eligible to be classed in the Register Book with the notation of + L.M.C.1-42, & the records of Oil Eng. C.L. & 2 D.B. 150 lbs.

The amount of Entry Fee .. £ : : When applied for, _____
 Special 1/3 L.M.C. £ 35 : 0 : 0 *5/2/ 1942*
 Donkey Boiler Fee ... £ 26 : 0 : 0 When received, _____
 Travelling Expenses (if any) £ : : _____
 air Receivers 4 : 4 : 0
 Committee's Minute _____

John Houston
 Engineer Surveyor to Lloyd's Register of Shipping.

GLASGOW 10 FEB 1942 AM

Assigned *-/- L.M.C. 1-42*
Oil Eng
2 D.B. 150 lbs



GLASGOW

Certificate (if required) to be sent to the Surveyors at the place for Committee's Minute.