

REPORT ON OIL ENGINE MACHINERY.

No 9256

Received at London Office 16 OCT 1941

Date of writing Report 9th Oct 1941 When handed in at Local Office 9th Oct 1941 Port of Dundee
No. in Survey held at Dundee Date, First Survey 5th May Last Survey 25th Sept 1941
Reg. Book. Number of Visits 26

4530 on the Single Motor Triple Screw vessel R.F.A. "GRAY RANGER" Tons Gross 3313 Net 1506

Built at Dundee By whom built Caledon S. B. & Co. Ltd Yard No. 390 When built 1941
Engines made at Sunderland By whom made Wm Doxford & Sons Ltd Engine No. 218 When made 1941
Monkey Boilers made at Dundee By whom made Caledon S. B. & Co. Ltd Boiler No. 590 When made 1941
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

TYPE OF ENGINES, &c.—Type of Engines 2 or 4 stroke cycle Single or double acting
Maximum pressure in cylinders Diameter of cylinders Length of stroke No. of cylinders 33083 No. of cranks

Mean Indicated Pressure Diameter of cylinders Length of stroke No. of cylinders 33083 No. of cranks
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. Means of ignition Kind of fuel used

Crank Shaft, Solid forged dia. of journals as per Rule Crank pin dia. Crank Webs Mid. length breadth Thickness parallel to axis
All built as fitted as fitted Crank Webs Mid. length thickness shrunk Thickness around eyehole

Intermediate Shafts, diameter as per Rule Approved Thrust Shaft, diameter at collars as per Rule
Screw Shaft, diameter as per Rule Approved Is the screw shaft fitted with a continuous liner yes

Bronze Liners, thickness in way of bushes as per Rule Approved Thickness between bushes as per Rule Approved 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

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 safety valves See Rpt No 33083 Are the exhaust pipes and silencers water cooled or lagged with
non-conducting material yes If the exhaust is led overboard what means are arranged to prevent water from being syphoned back to the engines Exhaust funnel

Bilge Pumps worked from the Main Engines, No. None Diameter Stroke Can one be overhauled while the other is at work
Bilge Pumps connected to the Main Bilge Line No. and Size 1 off - 10 1/2" x 7 1/2" x 10" 1 off - 10" x 11" x 10"
How driven Steam-driven Steam-driven

Ballast Pumps, No. and size 1 off - 10" x 11" x 10" Power Driven Lubricating Oil Pumps, including Spare Pump, No. and size 1-7" x 8" x 18" Steam-driven
Are two independent means arranged for circulating water through the Oil Cooler yes Suctions, connected to both Main Bilge Pumps and Auxiliary Bilge

Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size 1-4 1/2" from Bilge Pump Start 1-4 1/2" from Ballast Pump Start
Are all the Bilge Suction pipes in Holds and Tunnel Well fitted with strum-boxes yes Are the Bilge Suctions in the Machinery Spaces

Are all Sea Connections fitted direct on the skin of the ship or forced thro' buoyancy spaces Are they fitted with Valves or Cocks Valves on tank tops or on long-
itudinal bulk heads Below

Are all Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times yes
Are the Blow Off Cocks fitted with a spigot and brass covering plate yes

Are the arrangements 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 top platform

Main Air Compressors, No. Two off No. of stages 3 Stage Diameters Tandem Stroke 11 1/2" x 6 1/2" 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 Compressor are steam-driven
Scavenging Air Pumps, No. one Diameter 14 10"/m Stroke 1100"/m Driven by Main Engine

Auxiliary Engines crank shafts, diameter as per Rule Steam-driven No. 2 off Position Fore End 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. *✓* 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* *3'6" outside do.* thickness *15/16"*
 Seamless, lap welded or riveted longitudinal joint *T.R. Double Butt 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 *No* ✓
PLANS. Are approved plans forwarded herewith for Shafting *yes* ✓ Receivers *yes* ✓ Separate Fuel Tanks *yes* ✓
 Donkey Boilers *yes* ✓ General Pumping Arrangements *With hull repair* Pumping Arrangements in Machinery Space *yes* ✓
 Oil Fuel Burning Arrangements *yes* ✓

SPARE GEAR.

Has the spare gear required by the Rules been supplied }
 State the principal additional spare gear supplied } *As per list on Sld. Rpt. No 33083*

The foregoing is a correct description.

Manufacturer.

Dates of Survey while building { During progress of work in shops - - }
 { During erection on board vessel - - } *1941 May 5-8-19-22-25-27-30 June 2-5-9-13-16-20 July 15-22-24 Aug. 13-15-19-21-27 Sept. 1-4-17-19-22*
 Total No. of visits *26*

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 *27/5/41* Propeller in place *27/5/41* Stern tube in place *22/5/41* Engine sealings *27/5/41* Engines holding down bolts *15/7/41*
 Completion of fitting sea connections *22-5-41* Completion of pumping arrangements *19-9-41* Engines tried under working conditions *at sea - 25/9/41*
 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.
 16-6-41
 J.H.

LLOYD'S
 No 8988-899
 H.A.I.
 C.N.H. 8-1-
 LLOYD'S
 No 8988-899
 H.A.I.
 C.N.H. 8-1-
 No 8988-Spa

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* ✓
 Description of fire extinguishing apparatus fitted *Patent Extinguishers* ✓
 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 *R. S. A. "Gold Ranger"*

General Remarks (State quality of workmanship, opinions as to class, &c.)
This Machinery - Sld. Rpt No 33083 on the Main Engines, & Dundee Rpts Nos 9258, 9259 on the Donkey & Composite Boilers - has been efficiently fitted on board, the materials & workmanship being sound & good. The Main & Auxiliary Machinery, when tried out under full power & working conditions was 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. 9-41, & 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	30/9/19 41
Donkey Boiler Fee	£ 26	0 : 0	When received,
Air Receivers	£ 4	4 : 0	10 Oct 41
Travelling Expenses (if any)	£		

Committee's Minute **GLASGOW 14 OCT 1941**
 Assigned *1/2 done 9.41*
Oil Eng 200 150 lbs

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


Certificate (if required) to be sent to
 (The Surveyors are requested not to write on or below the space for Committee's Minute.)