

# REPORT ON OIL ENGINE MACHINERY.

No. 31780

Received at London Office 27 FEB 1936

Date of writing Report

When handed in at Local Office 25 FEB 1936 Port of Sunderland.

To. in Survey held at Sunderland. Date, First Survey 8<sup>th</sup> Oct. 35 Last Survey 22<sup>nd</sup> Feb 1936

Number of Visits 64

Tons } Gross 4985  
Net 3061.

on the Single Screw vessel  
Triple  
Quadruple

## "RUGELEY"

built at Sunderland

By whom built Wm. Leyford & Sons Ltd Yard No. 618 When built 1936

engines made at Sunderland

By whom made Wm. Leyford & Sons Ltd Engine No. 618 When made 1936

smoke Boilers made at Stockton

By whom made Stockton Chemical Eng Co & Riley Blast Ltd Boiler No. 13231 When made 1936

Indicated Horse Power 1800

Owners The Red R Steamship Co Ltd Port belonging to Newcastle

nominal Horse Power as per Rule 388

Is Refrigerating Machinery fitted for cargo purposes no Is Electric Light fitted Yes

Trade for which vessel is intended

20 1/2 Combrind 8 1/2"

ENGINES, &c.—Type of Engines Opposed piston airless injection 2 or 4 stroke cycle 2 Single or double acting Single

Maximum pressure in cylinders 570 lbs/sq in Diameter of cylinders 520 mm Length of stroke Lower 1200 mm Upper 880 mm No. of cylinders 3 No. of cranks 3 (3 strokes)

Mean Indicated Pressure 88 lbs/sq in Is there a bearing between each crank 3 throw

Distance between bearings, adjacent to the Crank, measured from inner edge to inner edge 820 mm Kind of fuel used Compression

Revolutions per minute 115 Flywheel dia. 1950 mm Weight FOR 49 cwt. Means of ignition AFT 34 cwt.

Crank Shaft, dia. of journals as per Rule 356 mm Crank pin dia. 410 mm Crank Webs Mid. length breadth 580 mm Thickness parallel to axis 230 mm

Intermediate Shafts, diameter as per Rule 356 mm Thrust Shaft, diameter at collars as per Rule 300 mm

Propeller Shaft, diameter as per Rule 300 mm Is the shaft fitted with a continuous liner Yes

Oil Liners, thickness in way of bushes as per Rule 16.4 mm Thickness between bushes as per Rule 12.5 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 Yes

When 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

When 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 Yes

Propeller, dia. 14'-0" Pitch 10'-6" No. of blades 4 Material Bronze whether Moveable no Total Developed Surface 80 sq. feet

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

Thickness of cylinder liners 20 mm Are the cylinders fitted with safety valves Yes Are the exhaust pipes and silencers water cooled or lugged with

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 Yes

Boiling Water Pumps, No. 2 one Engine Driven Is the sea suction provided with an efficient strainer which can be cleared within the vessel Yes

Other Pumps worked from the Main Engines, No. none Diameter Stroke Can one be overhauled while the other is at work Yes

Pumps connected to the Main Bilge Line { No. and Size 2, 6" x 5 1/2" x 15" Simplex How driven Steam

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 no Blast Pumps, No. and size 1 12" x 10 1/2" x 24" Simplex Power Driven Lubricating Oil Pumps, including Spare Pump, No. and size 1 main engine 80 mm x 520 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 4 @ 3" in E.R. 1 @ 3" Tunnel well In Pump Room 1

Holds, &c. N°1. 3 1/2" pps. N°2. 3 1/2" pps. N°3. 3" pps. N°4. 3 1/2" pps. Deep Tank 3 1/2" pps.

Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size 1 @ 8" (Ballast pump) 1 @ 5"

Are all the Bilge Suction pipes in Holds and Tunnel Well fitted with strum-boxes Yes Are the Bilge Suctions in the Machinery Spaces

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 Both

Are they fixed sufficiently high on the ship's side to be seen without lifting the platform plate Yes Are the Overboard Discharges above or below the deep water line Remaind apart.

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

How are they protected no How are they protected no

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

apartment to another Yes Is the Shaft Tunnel watertight Yes Is it fitted with a watertight door Yes worked from E.R. Top Grating

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

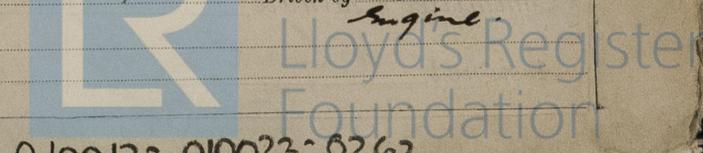
Main Air Compressors, No. Two No. of stages Three Diameters 10 1/2" 8 1/2" 2 1/2" Stroke 6" Driven by Steam engine 11 1/2" x 6" stroke

Auxiliary Air Compressors, No. none No. of stages no Diameters no Stroke no Driven by no

Small Auxiliary Air Compressors, No. none No. of stages no Diameters no Stroke no Driven by no

Exhausting Air Pumps, No. one Diameter 1510 mm Stroke 520 mm Driven by main engine

Auxiliary Engines crank shafts, diameter as per Rule Position no



010012-010023-0262

**AIR RECEIVERS:**—Is each receiver, which can be isolated, fitted with a safety valve as per Rule *Yes on discharge from Compressor*  
 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 *✓* Internal diameter *✓* thickness *✓*  
 Seamless, lap welded or riveted longitudinal joint *✓* Material *✓* Range of tensile strength *✓* Working pressure by Rules *✓* Actual *✓*  
**Starting Air Receivers, No.** *Two* Total cubic capacity *180 cuft.* Internal diameter *3'-6"* thickness *1"*  
 Seamless, lap welded or riveted longitudinal joint *riveted* Material *Mild Steel* Range of tensile strength *28/32* Working pressure by Rules *603* Actual *600*

**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 Shuffling (If not, state date of approval) *as "KIRRIEMOOR"* Receivers *Yes* Separate Fuel Tanks *as "KIRRIEMOOR"*  
 Donkey Boilers *Yes* General Pumping Arrangements *as "KIRRIEMOOR"* Pumping Arrangements in Machinery Space *as "KIRRIEMOOR"*  
 Oil Fuel Burning Arrangements *as "KIRRIEMOOR"*

**SPARE GEAR.**  
 Has the spare gear required by the Rules been supplied *Yes* ✓  
 State the principal additional spare gear supplied *1 Cast iron Propeller, 1 Propeller shaft, 2 Front fuel valves Complete, 2 Back fuel valves Complete, 8 Spray plugs, 1 Starting valve Complete, 1 Cylinder valve Complete, 4 Scavenge pump Suct. & del. valve discs, 1 Fuel pump body Complete, 1 roller for Camshaft, 1 upper piston rod & skirt, 1 lower piston rod & skirt, 3 main piston head Complete, 1 Cylinder liner Complete.*

**WILLIAM DOXFORD & SONS, LIMITED.**  
 The foregoing is a correct description,

*W. Miller* Manager. *W. Miller* Manufacturer.

Dates of Survey while building  
 During progress of work in shops-- *35/ Oct. 8, 9, 11, 14, 17, 18, 21, 22, 24, 25, 28, 29, Nov. 1, 4, 6, 7, 12, 13, 14, 15, 18, 19, 21, 22, 26, 27, 28, Dec. 3, 4, 5, 6, 9, 10, 11*  
 During erection on board vessel-- *16, 17, 18, 20, 23, 24, 31, 34 Jan. 3, 6, 8, 13, 14, 15, 16, 17, 20, 21, 22, 24, 27, 29, 30 Feb. 5, 11, 19, 20, 21, 22*  
 Total No. of visits *64*  
 Dates of Examination of principal parts—Cylinders *16/10/35 14/11/35* Covers *✓* Pistons *5/12/35* Rods *5/12/35* Connecting rods *19/11/35*  
 Crank shaft *14/12/35* Flywheel shaft *as crank.* Thrust shaft *as crank.* Intermediate shafts *14/12/35* Tube shaft *✓*  
 Screw shaft *17/2/35 3/1/36* Propeller *3/1/36* Stern tube *18/12/35 23/2/35* Engine seatings *Tank top.* Engines holding down bolts *24/1/36*  
 Completion of fitting sea connections *18/12/35* Completion of pumping arrangements *20/2/36* Engines tried under working conditions *20/2/36*  
 Crank shaft, Material *Ingot Steel* Identification Mark *S.O. 3946 G.O.C. 24/11/35* Flywheel shaft, Material *as crank.* Identification Mark *as crank.*  
 Thrust shaft, Material *" "* Identification Mark *as crank.* Intermediate shafts, Material *Ingot Steel* Identification Marks *N°5912, 2963, 2964, 2946, 2947, 2948, 2949, 2950, 2951, 2952, 2953, 2954, 2955, 2956, 2957, 2958, 2959, 2960, 2961, 2962, 2963, 2964, 2965, 2966, 2967, 2968, 2969, 2970, 2971, 2972, 2973, 2974, 2975, 2976, 2977, 2978, 2979, 2980, 2981, 2982, 2983, 2984, 2985, 2986, 2987, 2988, 2989, 2990, 2991, 2992, 2993, 2994, 2995, 2996, 2997, 2998, 2999, 3000*  
 Tube shaft, Material *" "* Identification Mgrk *✓* Screw shaft, Material *Ingot Steel* Identification Mark *W.N.F. 2945, 2946, 2947, 2948, 2949, 2950, 2951, 2952, 2953, 2954, 2955, 2956, 2957, 2958, 2959, 2960, 2961, 2962, 2963, 2964, 2965, 2966, 2967, 2968, 2969, 2970, 2971, 2972, 2973, 2974, 2975, 2976, 2977, 2978, 2979, 2980, 2981, 2982, 2983, 2984, 2985, 2986, 2987, 2988, 2989, 2990, 2991, 2992, 2993, 2994, 2995, 2996, 2997, 2998, 2999, 3000*

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 *not decided.*

Is this machinery duplicate of a previous case *yes* If so, state name of vessel *M.V. "KIRRIEMOOR"*  
 General Remarks (State quality of workmanship, opinions as to class, &c.) *The machinery of this vessel has been built under Special Survey in accordance with the Rules of the Society & the Secretary's letter E 25/4/34.*

*The materials & workmanship are good. The machinery has been secured fitted on board the vessel & tried under full working conditions at sea including rule requirements for starting, with satisfactory results. The donkey boilers have also been securely fixed on board & fitted to burn oil fuel (F.P. above 150° F) Section 20 of the Rules has been complied with, safety valves of boilers adjusted to working pressure & the accumulation test carried out satisfactorily. The machinery is eligible in my opinion to have notation L.M.C. 2.36 oil & T.S. (C), 2 D.B. 120 lbs/sq. in.*

The amount of Entry Fee .. £ 5 : - : When applied for, *25 FEB 1936*  
 Special ... .. £ 83 : 4 :  
 Donkey Boiler Fee ... .. £ 12 : 12 : When received, *6 FEB 1936*  
 Travelling Expenses (if any) £ : :  
 TUE. 3 MAR 1936

*J. Fraser*  
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute  
 Assigned *to L.M.C. 2.36 Oil Inf. 205-120 lbs*



Certificate (if required) to be sent to LLOYD'S REGISTER OF SHIPPING