

REPORT ON OIL ENGINE MACHINERY.

22 OCT 1952

of writing Report 14th October 1952 When handed in at Local Office 1/6 - 10 1952 Port of Glasgow

Survey held at Glasgow Date, First Survey 15th August 1952 Last Survey 10th October 1952

Book. 95 on the Twin Motor Screw vessel. " GUILD FORD " Tons Gross 1871

Single Triple Quadruple Net 1003

at Burutisland By whom built Burutisland Shipbuilding Co Ltd Yard No. 358 When built 1952

nes made at Govan Glasgow By whom made Hamm British Polar Engine Ltd Engine No. E874 When made 1952

ey Boilers made at NONE By whom made ✓ Boiler No. ✓ When made ✓

e Horse Power 1150 Owners South Metropolitan Gas Company Ltd Port belonging to London

Power as per Rule 230 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes

e for which vessel is intended Open sea service

ENGINES. &c. —Type of Engines. *Heavy Oil Engine H.L.B.H. Type* 2 or 4 stroke cycle. *2* Single or double acting *Single*

Maximum pressure in cylinders *780 lbs.* Diameter of cylinders *340 mm* Length of stroke *640 mm* No. of cylinders *8* No. of cranks *8*

Indicated Pressure. *100 lbs./sq. in.* Ahead Firing Order in Cylinders *1-6-4-7-2-5-3* Span of bearings, adjacent to the crank, measured inner edge to inner edge. *494 mm* Is there a bearing between each crank *Yes* Revolutions per minute *225*

Flywheel dia. *1186 mm* Weight *1250 lbs.* Moment of inertia of flywheel (lbs. in² or Kg.cm.²) *821* Means of ignition *Comp* Kind of fuel used *S.M.D.*

Crank pin dia. *235 mm* Crank webs Mid. length breadth *324 mm* Thickness parallel to axis *✓*
Solid forged as per Rule. *App.* as fitted *235 mm* Mid. length thickness *130 mm* Thickness around eyehole *✓*
Semi-built
All built

Propeller Shaft, diameter as per Rule. Intermediate Shafts, diameter as per Rule. Thrust Shaft, diameter at collars as fitted. *260 mm*
as fitted. as fitted. as per Rule. *App.*

Screw Shaft, diameter as per Rule. Is the { tube } shaft fitted with a continuous liner {
as fitted. as fitted. screw }

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

Does 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-soluble in oil? If two 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 propeller shaft? If so, state type. Length of bearing in Stern Bush next to and supporting propeller.

Propeller, dia. Pitch No. of blades Material whether moveable Total developed surface sq. feet

Moment of inertia of propeller (lbs. in² or Kg.cm.²) Kind of damper, if fitted *✓*

Method of reversing Engines. *DIRECT* Is a governor or other arrangement fitted to prevent racing of the engine when declutched. *YES* Means of starting *FORCED*

Thickness of cylinder liners. *25.5 mm* Are the cylinders fitted with safety valves. *YES* Are the exhaust pipes and silencers water cooled or lagged with non-conducting material. *Lagged* If the exhaust is led overboard near the waterline, what means are arranged to prevent water from being syphoned to the engine.

Cooling Water Pumps, No. *ONE* Is the sea suction provided with an efficient strainer which can be cleared within the vessel. *YES*

Pumps worked from the Main Engines, No. *ONE* Diameter *125 mm* Stroke *140 mm* Can one be overhauled while the other is at work?

Pumps connected to the Main Bilge Line (No. and size How driven)

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

1. **Power Driven Lubricating Oil Pumps, including spare pump, No. and size.**
 2. **Suctions, connected to both main bilge pumps and auxiliary pumps, No. and size:—In machinery spaces.**
 3. **Independent Power Pump Direct Suctions to the engine room bilges, No. and size.**
 4. **All the bilge suction pipes in holds and tunnel well fitted with strum-boxes.**
 5. **Sea Connections fitted direct on the skin of the Ship.**
 6. **Overboard discharges above or below the deep water line.**
 7. **Blow-off cocks fitted with a spigot and brass covering plate.**
 8. **How are they protected.**
 9. **Have they been tested as per Rule.**
 10. **All pipes, cocks, valves and pumps in connection with the machinery and all boiler mountings accessible at all times.**
 11. **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.**
 12. **Is the shaft tunnel watertight.**
 13. **Is it fitted with a watertight door.**
 14. **worked from.**
 15. **Good vessel, what means are provided to prevent leakage of either fuel oil or of lubricating oil from saturating the woodwork.**
 16. **Air Compressors, No. ONE No. of stages TWO diameters 21.58 & 0 7/8 stroke 240 7/8 driven by MAIN ENG.**
 17. **Auxiliary Air Compressors, No. No. of stages diameters stroke driven by.**
 18. **provision is made for first charging the air receivers.**
 19. **Enging Air Pumps, No. ONE diameter 940 7/8 stroke 240 7/8 driven by MAIN ENG.**
 20. **Enging Engines crank shafts, diameter as per Rule. No. as fitted. Position.**
 21. **the auxiliary engines been constructed under special survey.**
 22. **Is a report sent herewith.**

W1648-0017

Written by.....

Lloyd's Register
Foundation

AIR RECEIVERS:—Have they been made under survey YES. State No. of report or certificate C19763, C19764
 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, welded or riveted longitudinal joint Material Range of tensile strength Working pressure
 Starting Air Receivers, No. TWO Total cubic capacity 40 CU. FT. Internal diameter 25 1/2" thickness 5/8"
 Seamless, welded or riveted longitudinal joint WELDED Material H.S. Range of tensile strength 26/27 Working pressure
 IS A DONKEY BOILER FITTED 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 YES Receivers 14-3-52 Separate fuel tanks
 Donkey boilers General pumping arrangements Pumping arrangements in machinery space
 Oil fuel burning arrangements
 Have Torsional Vibration characteristics been approved YES Date of approval 9th November 1951
 SPARE GEAR.
 Has the spare gear required by the Rules been supplied YES
 State the principal additional spare gear supplied

The foregoing is a correct description, for BPE LTD. Manufacturer.
 Dates of Survey while building
 During progress of work in shops - August 15th to 29th. September 1st to 25th. October 3rd to 10th.
 During erection on board vessel -
 Total No. of visits ENG. 12.
 Dates of examination of principal parts—Cylinders 15-8-52 Covers 10-9-52 Pistons 29-8-52 Rods 22-9-52 Connecting rods 22-9-52
 Crank shaft 5-6-52 SCAR shaft 10-6-52 Thrust shaft 25-8-52 Intermediate shafts 27-9-48 Tube shaft
 Screw shaft Propeller Stern tube Engine seatings Engine holding down bolts
 Completion of fitting sea connections Completion of pumping arrangements Engines tried under working conditions
 Crank shaft, material D.H. STEEL Identification mark 9026 WJ1 SCAR shaft, material SIEMENS STEEL Identification mark 929 EP
 Thrust shaft, material S.H. STEEL Identification mark 921 105 Intermediate shafts, material Identification marks
 Tube shaft, material Identification mark Screw shaft, material Identification mark
 Identification marks on air receivers Nº 110Y 11-3-52 T.H.S. Nº 110B 11-3-52 T.H.S.

Welded receivers, state Makers' Name Messrs. Dynamite Dockyard Co. Ltd. Suisun.
 Is the flash point of the oil to be used over 150°F
 Have the requirements of the Rules for oil fuel pipes and tank fittings been complied with
 Description of fire extinguishing apparatus fitted
 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 If so, state name of vessel

General Remarks (State quality of workmanship, opinions as to class, &c.) This engine has been built under Special Survey in accordance with the Secretary's letters and approved plans. The materials and workmanship are good and on completion the engine was tried on the test bed at the makers works with satisfactory results. It has now been dispatched to Messrs Burntisland Shipbuilding Co. Ltd. to be fitted to their form N°358 and is eligible in my opinion for the record of A.M.C. (with date) when efficiently installed on board.
Be torsional vibration characteristics have been approved for a service speed of 225 R.P.M. provided a notice board be fitted at the control station stating that the engine is not to be operated continuously between 135 and 154 R.P.M. and the engine tachometer be marked accordingly.

The amount of Entry Fee ... £ 75 : 4 : When applied for 21 OCT 1952
 Special ... £ : : When received 19
 Donkey Boiler Fee... £ : :
 Travelling Expenses (if any) £
 Committee's Minute GLASGOW 21 OCT 1952
 Assigned Deferred for completion

Rpt. 13. No. 23150
REPORT ON ELECTRICAL EQUIPMENT.
 (OTHER THAN FOR THE PROPULSION OF THE VESSEL)
 Received at London Office 28 JAN 1953
 Date of writing Report JANUARY 1953 When handed in at Local Office JANUARY 1953 Port of LEITH
 No. in Survey held at BURNTISLAND Date, First Survey 14th NOV 1952 Last Survey 15th JANUARY 1953
 Reg. Book (No. of Visits 7)
 SUPPLEMENT
91095 on the SINGLE SCREW MOTOR VESSEL "GUILD FORD" Tons { Gross 187.1 Net 109.3
 Built at BURNTISLAND By whom built THE BURNTISLAND S.B. CO. LTD. Yard No. 358 When built 1953
 Owners SOUTH EASTERN GAS BOARD Port belonging to LONDON
 Installation fitted by THE BURNTISLAND SHIPBUILDING CO., LTD. When fitted 1953
 Is vessel equipped for carrying Petroleum in bulk NO Is vessel equipped with D.F. NO E.S.D. YES Gy.C. NO Sub.Sig. NO Radar YES
 Plans, have they been submitted and approved YES System of Distribution TWO-WIRE Voltage of Lighting 220
 Heating 220 Power 220 D.C. or A.C., Lighting D.C. Power D.C. If A.C. state frequency
 Prime Movers, has the governing been found as per Rule when full load is thrown on and off YES Are turbine emergency governors fitted with a trip switch Generators, are they compound wound YES, and level compounded under working conditions YES
 Are the generators arranged to run in parallel YES Is the compound winding connected to the negative or positive pole NEGATIVE
 Have machines 100 kw. and over been inspected by the Surveyors during manufacture and testing Have certificates of test for machines under 100 kw. been supplied and the results found as per Rule YES Position of Generators IN MOTOR ROOM
 is the ventilation in way of generators satisfactory YES are they clear of inflammable material and protected from mechanical injury and damage from water, steam and oil YES Switchboards, where are main switchboards placed ON FLAT AT FORWARD END OF MOTOR ROOM.
 are they in accessible positions, free from inflammable gases and acid fumes and protected from mechanical injury and damage from water, steam and oil YES, what insulation is used for the panels SINDANYO, if of synthetic insulating material is it of Approved Type YES, if of semi-insulating material (slate or marble) are all conducting parts insulated therefrom as per Rule Is the construction as per Rule, including locking of screws and nuts YES Description of Main Switchgear for each generator and arrangement of equaliser switches A DOUBLE CIRCUIT BREAKER FITTED WITH OVERLOAD & REVERSE CURRENT TRIPS, WITH A SINGLE POLE EQUALISER SWITCH IN CENTRE.
 and the switch and fuse gear (or circuit breakers) for each outgoing circuit 5 CIRCUITS WITH DOUBLE POLE CIRCUIT BREAKERS, REMAINDER DOUBLE POLE SINGLE THROW SWITCHES & DOUBLE POLE FUSES.
 Are compartments containing switchboards composed of fire-resisting material or lined as per Rule YES Instruments on main switchboard 9 ammeters 2 voltmeters synchronising devices For compound machines in parallel are the ammeters and reverse current protection devices connected on the pole opposite to the equaliser connection YES Earth Testing, state means provided
2 @ 15 WATT LAMPS Preference Tripping, state if provided NO, and tested
 Switches, Circuit Breakers and Fuses, are they as per Rule YES, are the fuses an Approved Type YES make of fuses ARTIC, are all fuses labelled YES If circuit breakers are provided for the generators, at what overload do they operate 150 % FULL LOAD, and at what current do the reverse current protective devices operate 10/15 % Cables, are they insulated and protected as per Rule YES, if otherwise than as per Rule are they of an Approved Type , state maximum fall of pressure between bus bars and any point under maximum load 6 volts. Are all paper insulated and varnished cambric insulated cables sealed at the ends YES
 Are all the cable runs in accessible positions not exposed to drip or accumulation of water or oil, high temperatures or risk of mechanical damage YES, are any cables laid under machines or floorplates YES, if so, are they adequately protected YES State type of cables (if in conduit this should also be stated) in machinery spaces L.C. ARMoured & B.R.O. galleys V.C. ASBESTOS IN CONDUIT and laundries State how the cables are supported or protected WHERE LEAD COVERED ARMoured & BRAIDED SUPPORTED BY GALVANISED CLIPS. WHERE LEAD COVERED ONLY, SUPPORTED BY BRASS SADDLES & PROTECTED WHERE LIABLE TO MECHANICAL DAMAGE.
 Are all lead sheaths, armouring and conduits effectually bonded and earthed YES Are all cables passing through decks and watertight bulkheads provided with deck tubes or watertight glands YES, where unarmoured cables pass through beams, etc., are the holes effectually bushed YES Refrigerated chambers, are the cables and fittings as per Rule
 Have refrigeration fan motors been constructed under survey and test certificates supplied
 Are the motors accessible for maintenance at all times