

REPORT ON OIL ENGINE MACHINERY.

No. 76086.
11 DEC 1950

Received at London Office.

of writing Report 19 When handed in at Local Office 18.9.50 Port of GLASGOW.
 in Survey held at GLASGOW. Date, First Survey 16.9.48 Last Survey 29.8.50
 Book. Number of Visits 48
 Single on the main Screw vessel. POWELL Tons Gross Net
 at PORT GLASGOW. By whom built LITHGOWS, L.D. Yard No. 1046 When built 1950
 Lines made at GLASGOW. By whom made D. ROWAN & CO. LD Engine No. 1218 When made 1950
 Key Boilers made at GLASGOW By whom made D. ROWAN & CO LD Boiler No. 1218 When made 1950
 Horse Power 6800 Owners Port belonging to
 Power as per Rule 1337. Is Refrigerating Machinery fitted for cargo purposes no Is Electric Light fitted Yes.
 Use for which vessel is intended Carrying Petroleum in Bulk Open Sea Service

ENGINES, &c. — Type of Engines Sixford Opposed piston. 2 or 4 stroke cycle 2 Single or double acting SINGLE.
 Maximum pressure in cylinders 600 lbs Diameter of cylinders 670 7/8 Length of stroke 2390 7/8 No. of cylinders 6 No. of cranks 18
 Indicated Pressure 88 lbs Ahead Firing Order in Cylinders 1.4.2.6.3.5. Span of bearings, adjacent to the crank, measured
 inner edge to inner edge 1300 7/8 Is there a bearing between each crank no. Revolutions per minute 116.
 Wheel dia. 2500 7/8 Weight 6 tons. Moment of inertia of flywheel (lbs. in² or Kg. cm.²) 72 ft² lbs. Means of ignition Comp. Kind of fuel used Diesel
 dia. of journals as per Rule. as approved. Crank pin dia. 530 7/8 Crank webs Mid. length breadth 754 7/8 Thickness parallel to axis 350 7/8
 as fitted 530 7/8 Mid. length thickness 300 7/8 shrunk Thickness around eye-hole 212 7/8
 Wheel Shaft, diameter as per Rule. as approved. Intermediate Shafts, diameter as per Rule. 15.7. Thrust Shaft, diameter at collars as fitted. 500 7/8
 as fitted 460 7/8 as fitted 16. as per Rule as approved.
 Screw Shaft, diameter as per Rule. 17.2. Is the (screw) shaft fitted with a continuous liner Yes.
 as fitted 18 1/2. as fitted as per Rule as approved.
 Liners, thickness in way of bushes as per Rule. as approved. Thickness between bushes as per Rule. 13/16 Is the after end of the liner made watertight in the
 as fitted 7/8 as fitted as fitted as fitted
 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-
 osive 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 tube shaft no. If so, state type Length of bearing in Stern Bush next to and supporting propeller 6'-2"
 dia. 18'-3" Pitch 13'-3" No. of blades 4. Material 3604ZE whether moveable no Total developed surface 135 sq. feet
 Moment of inertia of propeller (lbs. in² or Kg. cm.²) 8.39 lbs ft² Kind of damper, if fitted Bibby detune.

Method of reversing Engines Direct Is a governor or other arrangement fitted to prevent racing of the engine when declutched Yes. Means of
 location Fixed. Thickness of cylinder liners 25 7/8 Are the cylinders fitted with safety valves Yes. Are the exhaust pipes and silencers water cooled
 lined 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. Is the sea suction provided with an efficient strainer which can be cleared within the vessel
 Pumps worked from the Main Engines, No. Diameter Stroke Can one be overhauled while the other is at work

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

Oil Pumps, No. and size Power Driven Lubricating Oil Pumps, including spare pump, No. and size
 Two independent means arranged for circulating water through the Oil Cooler Suctions, connected to both main bilge pumps and auxiliary
 pumps, No. and size:—In machinery spaces In pump room
 Hoses, &c.

Independent Power Pump Direct Suctions to the engine room bilges, No. and size
 Are all the bilge suction pipes in holds and tunnel well fitted with strum-boxes Are the bilge suction 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

All Sea Connections fitted direct on the skin of the Ship Are they fitted with valves or cocks Are they fixed
 sufficiently high on the ship's side to be seen without lifting the platform plates Are the overboard discharges above or below the deep water line
 Are they each fitted with a discharge valve always accessible on the plating of the vessel Are the blow off cocks fitted with a spigot and brass covering plate

Are pipes pass through the bunkers How are they protected
 Are pipes pass through the deep tanks 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
 Are arrangements of valves and 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 Is the shaft tunnel watertight Is it fitted with a watertight door worked from

On wood vessel, what means are provided to prevent leakage of either fuel oil or of lubricating oil from saturating the woodwork
 Air Compressors, No. No. of stages diameters stroke driven by
 Auxiliary Air Compressors, No. No. of stages diameters stroke driven by

Is provision is made for first charging the air receivers
 Charging Air Pumps, No. 3. diameter 1700 7/8 stroke 540 7/8 driven by main Engine LEVERS.
 Auxiliary Engines crank shafts, diameter as per Rule. as fitted. Position
 Have the auxiliary engines been constructed under special survey Is a report sent herewith

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8/11/50

L100-588210-628210



AIR RECEIVERS:—Have they been made under survey... *yes* State No. of report or certificate *C 75590 (CL)*

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. *1* Cubic capacity of each... Internal diameter... thickness... Seamless, welded or riveted longitudinal joint... Material... Range of tensile strength... Working pressure... by Rules... Actual...

Starting Air Receivers, No. *2* Total cubic capacity *400 cu ft* Internal diameter *5'-0"* thickness *13/8* Seamless, welded or riveted longitudinal joint... Material *Steel* Range of tensile strength *28-32 1/2* Working pressure... by Rules... Actual... *60*

IS A DONKEY BOILER FITTED *Yes (2)* 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* (If not, state date of approval) *10.3.49* Receivers... *yes* *13.10.49* Separate fuel tanks... *yes*

Donkey boilers... *yes* General pumping arrangements... *yes* *22.9.49* Pumping arrangements in machinery space... *14.6.50*

Oil fuel burning arrangements... *14.6.50* Have Torsional Vibration characteristics been approved... *yes* Date of approval... *10.3.49*

SPARE GEAR.

Has the spare gear required by the Rules been supplied... *as per Rules requirements and attached list*

State the principal additional spare gear supplied...

The foregoing is a correct description...

David Kouquet Manufacturer.

Dates of Survey while building... During progress of work in shops... *1948 Sep 16 1949 Oct 24 Nov 14 22 29 Dec 5 1950 Feb 8 16 21 22 23 28 31 Apr 5 7 11 12 14 17 24 26 28 May 1 15 14 19 22 24 29 Jun 1 2 16 20 23 30 Jul 4 7 10 Aug 7 8 11 14 16 21 25 29*

Dates of examination of principal parts—Cylinders... *6.3.49 5.17.49* Covers... *✓* Pistons... *1-5-50* Rods... *1-5-50* Connecting rods... *28.6*

Crank shaft... *5.5.50* Flywheel shaft... *5-6-50* Thrust shaft... *5-5-50* Intermediate shafts... *15.5.50* Tube shaft... *✓*

Screw shaft... *23.6.50* Propeller... *23.6-50* Stern tube... *6.6.50* Engine seatings... *20.6.50* Engine holding down bolts... *7.8*

Completion of fitting sea connections... Completion of pumping arrangements... Engines tried under working conditions...

Crank shaft, material... *OH.15* Identification mark... *see attached sheets* Flywheel shaft, material... *OH.15* Identification mark... *see attached sheets*

Thrust shaft, material... *OH.15* Identification mark... *see attached sheets* Intermediate shafts, material... *OH.15* Identification marks... *18841-17771 HAI*

Tube shaft, material... *✓* Identification mark... *✓* Screw shaft, material... *OH.15* Identification mark... *18843 17771 HAI*

Identification marks on air receivers... *2371 LLOYDS TEST 950 W.P. 600 J.H.L. 1.6.50*

Welded receivers, state Makers' Name... *Cochran & Co Amman hd.*

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... *Steam & Chemical*

Is the vessel (not being an oil tanker) fitted for carrying oil as cargo... *tanker* If so, have the requirements of the Rules been complied with... *yes*

If the notation for ice strengthening is desired, state whether the requirements in this respect have been complied with... *yes*

Is this machinery duplicate of a previous case... *no* If so, state name of vessel...

General Remarks (State quality of workmanship, opinions as to class, &c.) *This machinery has been constructed under special survey in accordance with the Society's Rules and the approved plans. Materials and workmanship are good. The engine has been efficiently installed on board the vessel which has been towed to Port Glasgow for completion.*

For Recommendations please see G.R.C. Rpt No. 24249. *A. Clark-Jumper Greenock Oct/50*

The amount of Entry Fee... £ *309* Special *1/2 Credit of Greenock* When applied for... *20 SEP 1950* Donkey Boiler Fee... £ : When received... *19* Travelling Expenses (if any) £ :

Assigned... *Referred for completion* GLASGOW 20 SEP 1950



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