

REPORT ON OIL ENGINE MACHINERY.

Date of writing Report 15th Aug. 1951. When handed in at Local Office 5.4. 1952. Port of Glasgow Received at London Office 9 APR 1952

Survey held at Glasgow. Date, First Survey 25 April 1951 Last Survey 15th Aug. 1951

Rpt 102 on the Single Screw vessel M.V. "SEATERN" ex "Kyle Fisher" Tons Gross 604 Net 369

Book. Single on the Twin Triple Quadruple

Built at Heaven By whom built De Haan & Doorman, Scheepwerf Yard No. _____ When built 1939-5

Engines made at Govan, Glasgow By whom made Harland & Wolff Ltd Engine No. E833 When made 1951

Donkey Boilers made at _____ By whom made _____ Boiler No. _____ When made _____

Brake Horse Power 640 Owners Seaway Coasters Ltd (Jas Fisher & Son Ltd) Port belonging to Barrow

M.N. Power as per Rule (100/148) NEW 128 Is Refrigerating Machinery fitted for cargo purposes _____ Is Electric Light fitted _____

Trade for which vessel is intended Open sea service.

OIL ENGINES, &c. —Type of Engines Heavy Oil Engine, M. 4-4 M Type 2 or 4 stroke cycle 2 Single or double acting Single

Maximum pressure in cylinders 855 lbs/sq Diameter of cylinders 340 mm Length of stroke 570 mm No. of cylinders 4 No. of cranks 4

Mean Indicated Pressure 101.2 lbs/sq Ahead Firing Order in Cylinders 1, 3, 2, 4 Span of bearings, adjacent to the crank, measured from inner edge to inner edge 494 mm Is there a bearing between each crank YES Revolutions per minute 250

Flywheel dia. 1186 mm Weight 1250 lbs Moment of inertia of flywheel (lbs. in² or Kg. cm²) 821 lb Means of ignition COMP Kind of fuel used S.H.D

Crank Shaft, Solid forged dia. of journals as per Rule Crank pin dia. 235 mm Crank webs Mid. length breadth 324 mm Thickness parallel to axis as fitted Mil. length thickness 130 mm Thickness around eye-hole as fitted

Flywheel Shaft, diameter as per Rule Intermediate Shafts, diameter as per Rule Thrust Shaft, diameter at collars as fitted 260 mm

Tube Shaft, diameter as per Rule Screw Shaft, diameter as per Rule Is the (tube) shaft fitted with a continuous liner (screw) NO

Bronze Liners, thickness in way of bushes as per Rule Thickness between bushes 6.7 on body Is the after end of the liner made watertight in the propeller boss _____

If the liner is in more than one length are the junctions made by fusion through the whole thickness of the liner _____

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 _____

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 tube 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. cm²) _____ 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 lubrication 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 back 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

Bilge Pumps worked from the Main Engines, No. ONE Diameter 90 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 _____)

Is the 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 _____

Ballast Pumps, No. and size _____ Power Driven Lubricating Oil Pumps, including spare pump, No. and size _____

Are two independent means arranged for circulating water through the Oil Cooler _____ Suctions, connected to both main bilge pumps and auxiliary bilge pumps, No. and size:—In machinery spaces _____ In pump room _____

In holds, &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 _____

Are 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 _____

What pipes pass through the bunkers _____ How are they protected _____

What 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 _____

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 _____ Is the shaft tunnel watertight _____ Is it fitted with a watertight door _____ worked from _____

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. NONE No. of stages _____ diameters _____ stroke _____ driven by _____

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 _____

Scavenging Air Pumps, No. ONE diameter 770 mm stroke 350 mm driven by MAIN ENGINE

Auxiliary Engines crank shafts, diameter _____ as per Rule _____ as fitted _____ No. _____ Position _____

Have the auxiliary engines been constructed under special survey _____ Is a report sent herewith _____

AIR RECEIVERS: - Have they been made under survey State No. of report or certificate.....

Is each receiver, which can be isolated, fitted with a safety valve as per Rule.....

Can the internal surfaces of the receivers be examined and cleaned..... Is a drain fitted at the lowest part of each receiver.....

Injection Air Receivers, No..... 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. None Total cubic capacity..... Internal diameter..... thickness.....

Seamless, welded or riveted longitudinal joint..... Material..... Range of tensile strength..... Working pressure..... by Rules..... Actual.....

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..... Receivers..... Separate fuel tanks.....

Donkey boilers..... General pumping arrangements..... Pumping arrangements in machinery space.....

Oil fuel burning arrangements.....

Have Torsional Vibration characteristics been approved..... No Yes Date of approval.....

SPARE GEAR.

Has the spare gear required by the Rules been supplied. As per rule requirements

State the principal additional spare gear supplied.....

The foregoing is a correct description, Thomas & Radburn for BPE LIP Manufacturer.

Dates of Survey while building: During progress of work in shops - 1951. April 25th - 30th May 2nd - 30th June 29th July 2nd August 15th.

During erection on board vessel - - -

Total No. of visits ENG 10

Dates of examination of principal parts - Cylinders 25-4-51 Covers 9-5-51 Pistons 30-4-51 Rods ✓ Connecting rods 22-9-50

Crank shaft 15-9-49 SCAV Piston shaft 28-3-50 Thrust shaft 27-4-51 26-9-50 Intermediate shafts..... 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 O.H. STEEL Identification mark 6225 THS SCAV Piston shaft, material O.H. STEEL Identification mark 6883 GHK

Thrust shaft, material O.H. STEEL Identification mark 7058 GA Intermediate shafts, material..... Identification marks.....

Tube shaft, material..... Identification mark..... Screw shaft, material..... Identification mark.....

Identification marks on air receivers.....

Welded receivers, state Makers' Name.....

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 & workmanship are good and on completion the engine was tried on the test bed at the makers works with satisfactory results. This engine is intended to be installed in H.V. Seatem as a replace engine and is eligible in my opinion for the record of L.M.C. (with date) when efficiently installed on board, subject to the torsional vibration characteristics formed by the engine, line shafting and propeller as required by the Society's Rules being approved.

NEW MAIN ENGINE
Fitted Carrow 7.52 - RND No 3477

Table with columns for Fee Type, Amount, and Date. Includes Entry Fee (£39:9), Special Fee, Donkey Boiler Fee, and Travelling Expenses.

A. G. Smith
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute GLASGOW 8 APR 1952
Assigned Deferred for completion

