

REPORT ON OIL ENGINE MACHINERY.

No. 8116

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Writing Report 16th July, 1951. When handed in at Local Office 19 Port of **PLYMOUTH**

Survey held at **DARTMOUTH**. Date, First Survey 24. 1. 51. Last Survey 19th June, 1951. Number of Visits 18.

on the ~~Twin~~ ~~Triple~~ ~~Quadruple~~ Single Screw ~~vessel~~ Tanker "LANDAK"

at **Dartmouth** By whom built **Philip & Son Ltd.** Yard No. 1220 When built 6.51

es made at **Openshaw** By whom made **Crossley Bros. Ltd.** Engine No. 140975 When made 6.51

Boilers made at **None** By whom made **---** Boiler No. **---** When made **---**

Horse Power 425 Owners **The Shell Co. of Singapore Ltd.** Port belonging to **Singapore**

Power as per Rule 105 **NHP=97** Is Refrigerating Machinery fitted for cargo purposes **No** Is Electric Light fitted **Yes**

for which vessel is intended **Carrying petroleum in bulk**

ENGINES, &c. — Type of Engines **Heavy Oil (H.R.L. 5)** 2 or 4 stroke cycle **2** Single or double acting **S.A.**

um pressure in cylinders **950 lbs/sq"** Diameter of cylinders **10½"** Length of stroke **13½"** No. of cylinders **5** No. of cranks **5**

Indicated Pressure **92 lbs/sq"** Ahead Firing Order in Cylinders **1, 5, 2, 3, 4** Span of bearings, adjacent to the crank, measured inner edge to inner edge **14.11/16** Is there a bearing between each crank **Yes** Revolutions per minute **400**

eel dia. **37½"** Weight **2166 lbs** Moment of inertia of flywheel (**16** lbs. in² or Kg. cm.²) **500,000** Means of ignition **Compn.** Kind of fuel used **Diesel**

(Solid forged ~~Semi built~~ ~~All built~~) dia. of journals as per Rule **Appd.** Crank pin dia. **7½"** Crank webs Mid. length breadth **9½"** Thickness parallel to axis **---**

as fitted **7½"** Mid. length thickness **3.21/32** shrunk Thickness around eyehole **---**

eel Shaft, diameter as per Rule **On crank** Intermediate Shafts, diameter as per Rule **Appd.** Thrust Shaft, diameter at collars as fitted **4½"**

as fitted **shaft** as fitted **4½"** as per Rule **Appd.**

Shaft, diameter as per Rule **---** Screw Shaft, diameter as per Rule **Appd.** Is the **tube** shaft fitted with a continuous liner **Yes**

as fitted **---** as fitted **5½"** at cone **---** as fitted **---**

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

er boss **Yes** If the liner is in more than one length are the junctions made by fusion through the whole thickness of the liner **---**

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-

ve **---** 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

ube shaft **No** If so, state type **---** Length of bearing in Stern Bush next to and supporting propeller **20½"**

er, dia. **61"** Pitch **38"** No. of blades **3** Material **Mang. Bronz** whether moveable **Solid** Total developed surface **9.04** sq. feet

t of inertia of propeller (**16** lbs. in² or Kg. cm.²) **---** Kind of damper, if fitted **---**

d of reversing Engines **Direct** Is a governor or other arrangement fitted to prevent racing of the engine when declutched **Yes** Means of

ion **Forced** Thickness of cylinder liners **7/8"** Are the cylinders fitted with safety valves **Yes** Are the exhaust pipes and silencers water cooled

d with non-conducting material **Yes** If the exhaust is led overboard near the waterline, what means are arranged to prevent water from being syphoned

the engine **Up** Cooling Water Pumps, No. **2** Is the sea suction provided with an efficient strainer which can be cleared within the vessel **Yes**

Funnel Pumps worked from the Main Engines, No. **One** Diameter **4½"** Stroke **3"** Can one be overhauled while the other is at work **---**

connected to the Main Bilge Line { No. and size **One 4½" x 3" 2800 galls/Hr** } One 20 ton/hr. } One 30 ton/hr. }

How driven **Main Engine** } No. 1 Aux. Engine } Electric Motor }

ooling 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

ments **---**

Pumps, No. and size **The above Aux. pumps** Power Driven Lubricating Oil Pumps, including spare pump, No. and size **2 each 1176 galls/hr.**

independent means arranged for circulating water through the Oil Cooler **Yes** Suctions, connected to both main bilge pumps and auxiliary

mps, No. and size:—In machinery spaces **1 (2) 2½" dia** In pump room **2" hand pump only**

, &c. **None** / Cofferdams. **One 2½" & one 2" hand pump.**

ident Power Pump Direct Suctions to the engine room bilges, No. and size **One 3" x 1-2½"**

he bilge suction pipes in **holds and tunnel well** fitted with strum-boxes **Yes** Are the bilge suction in the machinery spaces led from easily

e mud-boxes, placed above the level of the working floor, with straight tail pipes to the bilges **Yes**

lea Connections fitted direct on the skin of the Ship **Yes** Are they fitted with valves or cocks **Yes** Are they fixed

ly high on the ship's side to be seen without lifting the platform plates **Yes** Are the overboard discharges above or below the deep water line **below**

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 **---**

pes pass through the bunkers **None** How are they protected **---**

pes pass through the deep tanks **None** Have they been tested as per Rule **---**

pipes, cocks, valves and pumps in connection with the machinery and all boiler mountings accessible at all times **Yes**

angement 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

from one compartment to another **Yes** Is the shaft tunnel watertight **None** Is it fitted with a watertight door **---** worked from **---**

l vessel, what means are provided to prevent leakage of either fuel oil or of lubricating oil from saturating the woodwork **---**

ir Compressors, No. **One** No. of stages **2** diameters **5½" & 2½"** stroke **4"** driven by **Main Eng.**

y Air Compressors, No. **One** No. of stages **2** diameters **4½" & 1½"** stroke **3½"** driven by **No. 2 Aux. Eng.**

uxiliary Air Compressors, No. **None** No. of stages **---** diameters **---** stroke **---** driven by **---**

2, provision is made for first charging the air receivers **Aux. Air Comp.** **---** Aux. engines are Electric and Hand starting.

ng Air Pumps, No. **One D.A. Tandum** diameter **20½"** stroke **6½"** driven by **Main Engine**

50 y Engines crank shafts, diameter as per Rule **See Man rpt. No. 14296** No. **1**

as fitted **---** Position **Eng. Room Port.** Engine room starboard

auxiliary engines been constructed under special survey **Yes** Is a report sent herewith **Yes**

Suk
10/8/57

002157-002164-0099

Lloyd's Register
Foundation

AIR RECEIVERS:—Have they been made under survey. Yes ✓ State No. of report or certificate. Not. C.10448 & C.4b.

Is each receiver, which can be isolated, fitted with a safety valve as per Rule Safety valve on Air Compn. ✓

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. None ✓ Cubic capacity of each. --- Internal diameter. --- thickness. --- by Rules. ---

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

Starting Air Receivers, No. 2 ✓ Total cubic capacity. 30 cu. ft. Internal diameter. 24 1/8" thickness. 15/32. Ends. 3/8"

Seamless, welded or riveted longitudinal joint. Welded Material. Steel Range of tensile strength. Ends. 26/30 Working pressure. Actual. 350 at. ---

IS A DONKEY BOILER FITTED No ✓ 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. 2.3.49. & Line Shafting. 2.50. Receivers. See Not. rpt. Separate fuel tanks. ---

Donkey boilers. --- General pumping arrangements. 1.6.50. Pumping arrangements in machinery space. 1.6.50.

Oil fuel burning arrangements. ---

Have Torsional Vibration characteristics been approved. Yes ✓ Date of approval. 1.3.50.

SPARE GEAR.

Has the spare gear required by the Rules been supplied. Yes ✓

State the principal additional spare gear supplied. See List.

FOR PHILIP & SON, LIMITED,
The foregoing is a correct description,
Manufacturer.

Dates of Survey while building During progress of work in shops. --- During erection on board vessel. 1951. Jan. 24; Feb. 9, 14; Mar. 7, 14, 22; April. 18, 25; May. 2, 9, 16, 23, 30, June. 6, 11, 18. Total No. of visits. 18.

Dates of examination of principal parts—Cylinders. Man. rpt. Covers. Man. rpt. Pistons. Man. rpt. Rods. --- Connecting rods. Man. rpt.

Crank shaft. Man. rpt. Flywheel shaft. --- Thrust shaft. Man. rpt. Intermediate shafts. Ips. rpt. Tube shaft. ---

Screw shaft. Lon. rpt. Propeller. Ips. rpt. & 6.6.51 Stern tube. 5. 2. 51. Engine seatings. 28.2.51. Engine holding down bolts. 25.4

Completion of fitting sea connections. 9.2.51. Completion of pumping arrangements. 13.6.51. Engines tried under working conditions. 19.6

Crank shaft, material. Steel Identification mark. T.H.S. 5.5.50. Flywheel shaft, material. --- Identification mark. ---

Thrust shaft, material. Steel Identification mark. T.H.S. 9.12.4. Intermediate shafts, material. Steel Identification marks. 4109

Tube shaft, material. --- Identification mark. --- Screw shaft, material. Steel Identification mark. 4108 G.H.

Identification marks on air receivers. 81/480239 LLOYD'S TEST 700 lbs/sq" 13.3.50. T.O.S. - T.112

81/490190 " " " " 12.6.50. " T.142

Welded receivers, state Makers' Name. Ruston & Hornsby Lincoln

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. C.O.2 in Engine & Pump Room plus 2 - 2gall. Pyrene Fire Extinguishing & 1 Quest

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. Standard Engine If so, state name of vessel. ---

General Remarks (State quality of workmanship, opinions as to class, &c.

The machinery of this vessel, has been fitted on board under Special Survey in accordance with, or

equivalent to approved plans, rule requirements and the Secretary's letters.

The workmanship and materials are good and when tried under full power the engines were found

satisfactory in every respect.

In my opinion this installation is eligible for the notation in the Register Book + L.M.C. 6.51 and

C.L. 5 Cyl. 2 S.C.S.A. 10 1/2" x 13 1/2" 105 M.N.

The amount of Entry Fee ... £ : : Special ... £ 14 : 0 : Donkey Boiler Fee... £ : : Travelling Expenses (if any) £ 9 : 12/6 :

Committee's Minute FRI, 17 AUG 1951

Assigned + LMC 651 Oil Eng.

C.L.

