

REPORT ON OIL ENGINE MACHINERY.

No. 71426

5 FEB 1947

Received at London Office

Date of writing Report 31-1-1947 When handed in at Local Office 3.2.47

Port of GLASGOW

No. in Survey held at Reg. Book.

GLASGOW

Date, First Survey 21.8.45 Last Survey 27.1.1949

Number of Visits 6

Single
on the Twin
Triple
Quadruple

Screw vessel

MOTOR VESSEL "MUTLAH"

Tons: Gross 6652
Net 4457

Built at GLASGOW

By whom built CHAS. CONNELLY CO. LTD.

Yard No. 453 When built 1947

Engines made at GLASGOW

By whom made BARCLAY CURLEY CO. LTD.

Engine No. 162 When made 1947

Donkey Boilers made at GLASGOW

By whom made BARCLAY CURLEY CO. LTD.

Boiler No. 162 When made 1947

Brake Horse Power 2500

Owners JAMES NOURSE LTD.

Port belonging to LONDON

Nom. Horse Power as per Rule 516

Is Refrigerating Machinery fitted for cargo purposes NO.

Is Electric Light fitted YES

Trade for which vessel is intended MN 534

OCEAN GOING

OIL ENGINES, &c. Type of Engines Dorsford Opposed Piston 2 or 4 stroke cycle 2 Single or double acting Single

Maximum pressure in cylinders 640 lb/sq. in. Diameter of cylinders 23 5/8" Length of stroke 91 5/16" No. of cylinders 3 No. of cranks 3 (x3)

Mean Indicated Pressure 88 lb/sq. in. Span of bearings, adjacent to the Crank, measured from inner edge to inner edge 1200 7/8" Is there a bearing between each crank Yes

Revolutions per minute 108 Flywheel dia. F 2300 7/8" Weight F 6.19 TONS Means of ignition Comp. Kind of fuel used Diesel

Crank Shaft, Solid forged dia. of journals as per Rule 418 7/8" Crank pin dia. 450 7/8" Mid. length breadth 650 7/8" Thickness parallel to axis 255 7/8"

Flywheel Shaft, diameter as per Rule 450 7/8" Intermediate Shafts, diameter as per Rule 11.93" Thrust Shaft, diameter at collars as per Rule 318 7/8"

Tube Shaft, diameter as per Rule 13.20" Screw Shaft, diameter as per Rule 15 1/2" Is the tube shaft fitted with a continuous liner Yes

Bronze Liners, thickness in way of bushes as per Rule 13 1/8" Thickness between bushes as per Rule 3/8" 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

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 No

Is an approved Oil Gland or other appliance fitted at the after end of the tube shaft No

Length of Bearing in Stern Bush next to and supporting propeller 5'2"

Propeller, dia. 15'3" Pitch 11'9" No. of blades 4 Material M.B. BLADES Whether Moveable Yes Total Developed Surface 74 sq. feet

Method of reversing Engines Direct Is a governor or other arrangement fitted to prevent racing of the engine when detached Yes Means of lubrication Forced

Thickness of cylinder liners 25 7/8" 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. Two 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. NONE Diameter Stroke Can one be overhauled while the other is at work

Pumps connected to the Main Bilge Line No. and Size 1 @ 150 tons/hr. 1 @ 95 tons/hr. 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

Ballast Pumps, No. and size 1 @ 150 tons/hr. Power Driven Lubricating Oil Pumps, including Spare Pump, No. and size M. Eng. 85 7/8" x 608 7/8" SPARE 7'4 1/2" x 15"

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" x Dam 2 @ 2" Only Bilge 1 @ 2"

In Holds, &c. No. 1, 495 Holds 2 @ 3" No. 2, 13 Holds 2 @ 4" Tunnel Well 1 @ 2 1/2"

Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size 2 @ 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 led 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 plates Yes Are the Overboard Discharges above or below the deep water line Both

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

What pipes pass through the bunkers None How are they protected

What pipes pass through the deep tanks None 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 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 compartment to another Yes

Is the Shaft Tunnel watertight Yes Is it fitted with a watertight door Yes worked from Top grating

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 10 1/2" - 2 1/2" Stroke Driven by

Auxiliary Air Compressors, No. Two No. of stages 3 Diameters 10 1/2" - 8 1/4" Stroke 6" Driven by Steam

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

What provision is made for first Charging the Air Receivers Steam driven compressors

Scavenging Air Pumps, No. One Diameter 1700 7/8" Stroke 608 7/8" Driven by Main engine

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

Have the Auxiliary Engines been constructed under special survey Is a report sent herewith

AIR RECEIVERS: — Have they been made under survey *Yes* ✓ State No. of Report or Certificate *See marks below*
 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. *202211* Cubic capacity of each *—* Internal diameter *—* thickness *—*
 Seamless, lap welded or riveted longitudinal joint *—* Material *—* Range of tensile strength *202211* Working pressure *—*
Starting Air Receivers, No. *TWO* ✓ Total cubic capacity *278 cub. ft.* Internal diameter *4'0 1/2"* thickness *1 3/32"*
 Seamless, lap welded or riveted longitudinal joint *D.B.S.T.R.R.* Material *Steel* Range of tensile strength *26/33 ton* Working pressure *by Rules* *600 lb/sq. in.*
 Actual *—*

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 Shafting *Yes* ✓ Receivers *Yes* ✓ Separate Fuel Tanks *Yes* ✓
 (If not, state date of approval) *—*
 Donkey Boilers *Yes* ✓ General Pumping Arrangements *13-12-45* Pumping Arrangements in Machinery Space *Yes* ✓
 Oil Fuel Burning Arrangements *Yes* ✓

SPARE GEAR.

Has the spare gear required by the Rules been supplied *Yes* ✓
 State the principal additional spare gear supplied *2 M.B. Propeller blades, 1 cylinder liner with jacket
 1 main piston complete with, 1 upper & 1 lower piston skirt*

The foregoing is a correct description and the particulars of the installation as fitted are as approved for torsional vibration characteristics.

The foregoing is a correct description.

A. Macneil

Manufacturer.

Dates of Survey while building
 During progress of work in shops -- *1945 Aug 21 Oct 4. 23 Nov 29 Dec 3. 11. 21 1946 Jan 9. 29 Feb 12 Mar 12. 19 Apr 8. 11 May 3. 14. 17. 21 30 Jun 3. 5. 6. 7 22 Jan 1947*
 During erection on board vessel -- *5. 25 Aug 13. 26. 27. Sep 4. 6. 10. 11. 13. 19. 23. 26 Oct 1. 3. 8. 14 15. 16. 25. 29 30 Nov 4. 7. 11. 12. 18. 19. 26 29 Dec 11. 13. 24 (1947) Jan 3. 29 27*
 Total No. of visits *61.*

Dates of Examination of principal parts—Cylinders *15-10-46* Covers *—* Pistons *30-10-46* Rods *30-10-46* Connecting rods *11-11-46*
 Crank shaft *3-10-46* Flywheel shaft *3-10-46* Thrust shaft *3-10-46* Intermediate shafts *15-10-46* Tube shaft *—*
 Screw shaft *15-10-46* Propeller *15-10-46* Stern tube *15-10-46* Engine seatings *5-11-46* Engines holding down bolts *13-12-46*
 Completion of filling sea connections *5-11-46* Completion of pumping arrangements *17-1-47* Engines tried under working conditions *27-1-47*
 Crank shaft, Material *O.H.S.* Identification Mark *LLOYDS 140339 TEST 3-10-46* Flywheel shaft, Material *O.H.S.* Identification Mark *LLOYDS F5410 3-10-46*
 Thrust shaft, Material *O.H.S.* Identification Mark *LLOYDS F5407 3-10-46* Intermediate shafts, Material *O.H.S.* Identification Marks *LLOYDS F1588-F1589 NK-15-10-46*
 Tube shaft, Material *—* Identification Mark *—* Screw shaft, Material *O.H.S.* Identification Mark *LLOYDS F1587 NK-15-10-46*

LLOYDS TEST
 800 LBS/SQ. INCH
 WP 600 LBS/SQ. INCH
 NK 5-7-46

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 *Perforated steam pipes, Foamite and sand box.*
 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 *—*
 Is this machinery duplicate of a previous case *Yes* ✓ If so, state name of vessel *7/4 MARSATA G.L.S. RPT. N° 41183*

General Remarks (State quality of workmanship, opinions as to class, &c.) *This machinery has been constructed under special survey in accordance with the Rules and approved plans. The materials and workmanship are good, and the torsional vibration characteristics are in accordance with London Letter 9th March 1945 this machinery being an exact duplicate of the 7/4 Marsjata (Glasgow Rpt. N° 41183) The machinery has been satisfactorily installed in the vessel, tested under full working conditions and found in good order, and in my opinion is eligible to be classed with Quord of + L.M.C. 1, 47 2 D.B. 120 lbs and notation C.L. OIL ENGINE See also Secy letter to Els 29.11.46 regarding restricted revolutions*

The amount of Entry Fee .. £ 6 : - : When applied for,
 Special £ 100 : 16 : **4 FEB 1947**
 WELDING £ 12 : 12 :
 Donkey Boiler Fee £ 18 : - :
 AIR RECEIVERS £ 4 : - :
 Travelling Expenses (if any) £ : : : 19.

W. Russell
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute **GLASGOW 4 - FEB 1947**

Assigned *1-1-47 Oil Eng. 2 D.B. 120 lb.*



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