

REPORT ON OIL ENGINE MACHINERY.

No. 109294

2 - APR 1952

Received at London Office

Date of writing Report 31.3.52 1952 When handed in at Local Office 31.3.52 1952 Port of NEWCASTLE-ON-TYNE
 No. in Survey held at WALLSEND & SUNDERLAND Date, First Survey 13.3.50 Last Survey 28.8.52
 Reg. Book. 40546 on the Single Screw vessel M.V. "SANDALWOOD" Number of Visits III
 Gross Tons 10061.23
 Net Tons 5925.05
 Built at SUNDERLAND By whom built J. L. THOMPSON & SONS LTD Yard No. 672 When built 1952
 Engines made at WALLSEND-ON-TYNE By whom made NORTH EASTERN MARINE ENG. CO (1938) LTD Engine No. 3206 When made 1952
 Donkey Boilers made at WALLSEND-ON-TYNE By whom made NORTH EASTERN MARINE ENG. CO (1938) LTD Boiler No. 3206 When made 1952
 Brake Horse Power SERVICE & MAX: 4250 Owners JOHN. I. JACOBS & CO. LTD Port belonging to LONDON
 M.N. Power as per Rule Old 911 New 4250 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted YES
 Trade for which vessel is intended OPEN SERVICE

OIL ENGINES, &c. — Type of Engines NORTH EASTERN MARINE - DOXFORD DESIGNED 2 or 4 stroke cycle 2 Single or double acting SINGLE
 Maximum pressure in cylinders 640 lbf/sq in Diameter of cylinders 670 mm Length of stroke 2320 mm No. of cylinders 4 No. of cranks 4 (THREE THROW)
 Mean Indicated Pressure 90 lbf/sq in Ahead Firing Order in Cylinders 1-3-4-2 Span of bearings, adjacent to the crank, measured from inner edge to inner edge 2020 mm Is there a bearing between each crank THREE THROW Revolutions per minute 110
 Flywheel dia 2493 mm Weight 0.85 TONS Moment of inertia of flywheel (lbs. in² or Kg. cm²) 0.435 TONS FT² SEC² Means of ignition COMPRESSION Kind of fuel used HEAVY OIL
 Crank Shaft, Semi built dia. of journals as per Rule 471 mm as fitted 500 mm Crank pin dia 500 mm Crank webs Mid. length breadth 710 mm Thickness parallel to axis 285 mm Mid. length thickness 285 mm shrunk Thickness around eyehole 220 mm
 Flywheel Shaft, diameter as per Rule 14.05 as fitted 21 1/4 Thrust Shaft, diameter at collars as fitted 18 as per Rule 18
 Tube Shaft, diameter as per Rule 15.43 as fitted 21 1/4 Is the tube shaft fitted with a continuous liner YES
 Screw Shaft, diameter as per Rule 24.75 as fitted 21 1/4
 Bronze Liners, thickness in way of bushes as per Rule 15/16 as fitted 3/4 Thickness between bushes as per Rule 18-56/32 as fitted 3/4 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 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-corrosive 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 NO Length of bearing in Stern Bush next to and supporting propeller 6'-1"
 Propeller, dia 16'-6" Pitch 13'-4 1/2" / 11'-1 1/2" No. of blades 4 Material BRONZE whether moveable NO Total developed surface 103.4 sq. feet
 Moment of inertia of propeller (lbs. in² or Kg. cm²) 5.400 TONS FT² SEC² Kind of damper, if fitted NO
 Method of reversing Engines HAND LEVEL (INCLUDES ENTICED WATER) Is a governor or other arrangement fitted to prevent racing of the engine when disengaged YES Means of lubrication FORCED Thickness of cylinder liners 25 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 ONE MAIN ENG. DRIVEN 190 TONS/HK
 Cooling Water Pumps, No. ONE INDEPENDANT 10 x 12 x 12 160 TONS/HK 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 ONE BALLAST 10 x 12 x 12 260 TONS/HK Stroke ONE BILGE & SANITARY 75 TONS/HK Can one be overhauled while the other is at work YES
 Pumps connected to the Main Bilge Line No. and size ONE BALLAST 10 x 12 x 12 260 TONS/HK How driven STEAM ONE BILGE & SANITARY 75 TONS/HK ONE GENERAL SERVICE 75 TONS/HK
 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 STEAM
 Ballast Pumps, No. and size ONE 10 x 12 x 12 260 TONS/HK Power Driven Lubricating Oil Pumps, including spare pump, No. and size ONE ME DRIVEN 42 1/2 TONS/HK ONE INO. 8 x 8 x 10 75 TONS/HK
 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 1-3 1/2" FUR FOR 1-3 1/2" AFT 1-2 1/2" COFFERDAM, ONLY BILGE 1-2 1/2" PUMP In pump room MAIN 1-4 1/2" FUR 1-4"
 In holds, &c. FORE HOLD 1-2" FUR FOR 1-2" FUR COFFERDAM 1-4" FUR
 Independent Power Pump Direct Suctions to the engine room bilges, No. and size 1-3 1/2" FUR FOR 1-5" AFT 1-9" EMERGENCY PORT
 Are all the bilge suction pipes in holds and tunnel well fitted with strum-boxes YES 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 YES
 Are all Sea Connections fitted direct on the skin of the Ship NO Are they fitted with valves or cocks BOTH Are they fixed efficiently 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
 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
 That pipes pass through the bunkers 1-4" AFT COFFERDAM SUCTION How are they protected HEAVY GAUGE PIPE
 That pipes pass through the deep tanks 6" DIA: FORE PEAK SUCTION Have they been tested as per Rule YES
 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 YES
 On a wood vessel, what means are provided to prevent leakage of either fuel oil or of lubricating oil from saturating the woodwork YES
 Main Air Compressors, No. NONE No. of stages 1 diameters 125 mm stroke 548 mm driven by STEAM ENGINE
 Auxiliary Air Compressors, No. 2 No. of stages 3 diameters 125 mm stroke FREE AIR/PM driven by STEAM ENGINE
 Small Auxiliary Air Compressors, No. 1 No. of stages 1 diameters 125 mm stroke FREE AIR/PM driven by STEAM ENGINE
 What provision is made for first charging the air receivers DONKEY BOILERS & STEAM DRIVEN AIR COMPRESSORS
 Scavenging Air Pumps, No. 2 diameter 1700 mm stroke 548 mm driven by SIDE LEVER 102 CYLINDERS
 Auxiliary Engines crank shafts, diameter as per Rule DIESEL APPROVED as fitted 85 mm No. 2-45KW 110V STEAM GENERATORS Position ENG. ROOM FURT. MID. BATHROOM STEERING FURT.
 Have the auxiliary engines been constructed under special survey DIESEL YES Is a report sent herewith DIESEL YES LEADS RPT. 560.

AIR RECEIVERS:—Have they been made under survey YES. State No. of report or certificate ✓
Is each receiver, which can be isolated, fitted with a safety valve as per Rule FUSIBLE PLUG FITTED TO EACH RECEIVER WITH SAFETY VALVE ON EACH AIR COMP
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 ✓
Seamless, welded or riveted longitudinal joint ✓ Material ✓ Range of tensile strength ✓ Working pressure ✓
Starting Air Receivers, No. 2 Total cubic capacity EACH 1500 ft Internal diameter 4'-0 1/4" thickness 1 3/32"
Seamless, welded or riveted longitudinal joint RIVETED Material MILD STEEL Range of tensile strength ENOS 26/30 Tensile Working pressure by Rules 6 1/2 lbs/sq
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 23.2.50 & 26.4.51 Receivers 2.7.51 Separate fuel tanks 30.7.51
Donkey boilers YES General pumping arrangements 16.1.51 Pumping arrangements in machinery space 30.7.51
Oil fuel burning arrangements 30.7.51
Have Torsional Vibration characteristics been approved YES Date of approval 26.4.51
SPARE GEAR.
Has the spare gear required by the Rules been supplied YES
State the principal additional spare gear supplied AS PER ATTACHED LIST.

The foregoing is a correct description of the machinery and the particulars of the installation as fitted are as approved for
THE NORTH EASTERN MARINE ENGINEERING CO. (1938) LTD. Manufacturer. TORSIONAL VIBRATION CHARACTERISTICS.

Dates of Survey while building
During progress of work in shops - (1950) MAR. 13, 15, MAY 9, JUNE 3, 12, 13, 15, 16, 30, JULY 18, AUG. 18, 30, SEPT. 1, NOV. 3, 9, 19, DEC. 1, 11, (1951) FEB. 26, 27, 28, MAR. 15, 16, APR. 5, 15
During erection on board vessel - MAY. 1, 10, 16, 17, 23, 24, 28, 29, 31, JUNE 1, 5, 7, 8, 14, 21, 25, 26, 28, 29, JULY 3, 4, 5, 6, 9, 10, 12, 13, 16, 18, 19, 23, 24, 26, 27, AUG. 7, 8, 9, 10, 13, 15, 16, 17, 20, 27, 28, 29, 30, 31, SEPT. 12, 14, 17, 20, 25, 26, OCT. 1, 3, 4, 10, 11, 16, 31, NOV. 7, 8, 12, 14, 19, 22, 23, 26, 27, 30, DEC. 4, 11, 12, 17, 19, (1952) JAN. 4, 7, 9, 10, 14, 22, 31, FEB. 1, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, MAR. 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, APR. 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, MAY 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, JUN. 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, JULY 1, 2, 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