

REPORT ON OIL ENGINE MACHINERY.

No. 21.148

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Reg. Book. Number of Visits 16

on the Twin Screw vessel **PANT** Tons Gross 210 Net 113

Built at Melbourne, Victoria By whom built Johnson's Lane Foundry Ltd Yard No. 44 When built Nov 1945
Engines made at Melbourne, Victoria By whom made Ordnance Factory, Maitland, under licence from Ruston Hornsby, England Engine No. 5180-1910 When made Feb 1945
Donkey Boilers made at By whom made Boiler No. When made
Brake Horse Power 183 x 2 Owners The Anglo-Saxon Petroleum Co. Ltd Port belonging to Sydney N.S.W.
Tom. Horse Power as per Rule 74.8 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes
Trade for which vessel is intended Coasting service East Indian Archipelago

IL ENGINES, &c. — Type of Engines Ruston & Hornsby 6VCBM with Modern Wheel Drive 2 to 1 Reduction Gear 2 or 4 stroke cycle 4 Single or double acting Single
Maximum pressure in cylinders 152 lb per sq. in. Diameter of cylinders 8" Length of stroke 10 3/4" No. of cylinders 6 No. of cranks 6
Mean Indicated Pressure
Span of bearings, adjacent to the crank, measured from inner edge to inner edge 9 1/2" Is there a bearing between each crank Yes
Revolutions per minute 600 Flywheel dia. 2'-10" Weight 1388.8 lb Means of ignition Compression Kind of fuel used Diesel
Crank Shaft, Solid forged dia. of journals as per Rule 6" Crank pin dia. 4 3/4" Crank webs Mid. length breadth 8" Thickness parallel to axis
Flywheel Shaft, diameter as per Rule Intermediate Shafts, diameter as fitted 4 3/8" Thrust Shaft, diameter at collars as fitted 4.25" to 4.037"
Tube Shaft, diameter as fitted Screw Shaft, diameter as fitted 4.25" Is the shaft fitted with a continuous liner No

Bronze Liners, thickness in way of bushes as per Rule 0.375" Thickness between bushes as fitted 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 2 liners
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 Painted 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 15 5/8"

Propeller, dia. 56" Pitch 51" No. of blades 3 Material Bronze whether moveable No Total developed surface 8 sq. feet
Method of reversing Engines Gearbox Is a governor or other arrangement fitted to prevent racing of the engine when declutched Yes Means of lubrication Forced
Thickness of cylinder liners 1/4" to 1/2" Are the cylinders fitted with safety valves Yes Are the exhaust pipes and silencers water cooled
Lagged with non-conducting material Yes 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. 3 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. 2 Diameter 3 1/2" Stroke 3 1/2" Can one be overhauled while the other is at work Yes
Pumps connected to the Main Bilge Line No. and size Two PLUNGER PUMPS 3 1/2" x 3 1/2" ONE 2 1/2" VIKING INTERNAL GEAR PUMP, CAPACITY 90 GALS PER MIN.
How driven ONE FROM EACH MAIN ENGINE WITH BELT DRIVE FROM AUXY DIESEL ENGINE
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 Power Driven Lubricating Oil Pumps, including spare pump, No. and size
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 One 2" plus 2 direct suction as under In pump room
Holds, &c. 2 @ 2" in hold, 1 @ 2" in forward cofferdam, one @ 2" each side in after hold space
Independent Power Pump Direct Suctions to the engine room bilges, No. and size 1 @ 2" from Viking type pump and 1 @ 2" from Starck M.E. Bilge pump
Are all the bilge suction pipes in holds and tunnel well fitted with strum-boxes Yes Are the bilge suction pipes 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 Values 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 Above
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
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 worked from
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Main Air Compressors, No. Two (2) No. of stages Two (2) diameters 4" L.P. 6 1/2" H.P. stroke 3" driven by BELTS & CLUTCH FROM MAIN ENGINE
Auxiliary Air Compressors, No. One (1) No. of stages Two (2) diameters 4" L.P. 6 1/2" H.P. stroke 3" driven by CLUTCH FROM AUXY. ENGINE
Small Auxiliary Air Compressors, No. No. of stages diameters stroke driven by
What provision is made for first charging the air receivers Hand starting auxiliary engine driving auxiliary air compressors
Savenging Air Pumps, No. diameter stroke driven by
Auxiliary Engines crank shafts, diameter as per Rule 2 3/8" Position Kelly & Lewis Ltd's centre of E.R. Southern Cross
Have the auxiliary engines been constructed under special survey No Is a report sent herewith Yes

AIR RECEIVERS:—Have they been made under survey No State No. of report or certificate ✓
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. — Cubic capacity of each — Internal diameter — thickness —
Seamless, lap welded or riveted longitudinal joint ✓ Material — Range of tensile strength — Working pressure —
Starting Air Receivers, No. Four (4) Total cubic capacity 44.8 cu. ft. Internal diameter 23 7/8" thickness 5/16"
Seamless, lap welded or riveted longitudinal joint Butt welded circumferentially Material M.S. Range of tensile strength — Working pressure —
No longitudinal joint Actual 300 lb.
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 — Receivers — Separate fuel tanks —
(If not, state date of approval)
Donkey boilers ✓ General pumping arrangements — Pumping arrangements in machinery space —
Oil fuel burning arrangements ✓

SPARE GEAR.

Has the spare gear required by the Rules been supplied Yes } In addition to the list, one spare screw
State the principal additional spare gear supplied See list attached hereto. } shaft and two spare propellers are provided

The machinery of this vessel is a duplicate of that fitted in T.S.M.V. BUCKIE
(Sydney N.S.W. Rpt. 20830) plans of which are in London Office.

The foregoing is a correct description,
B. P. Zieeden Manufacturer.
Surveyor to Lloyds Register

Dates of Survey after building
During progress of work in shops 1946 2.25 Oct. 29 Nov. 5.12.19 Dec
During erection on board vessel 1947 7.13 Jan 5.17.19 Feb. 18 April 21.26 May 8 July 9 Sept
Total No. of visits —

Dates of examination of principal parts—Cylinders — Covers — Pistons — Rods — Connecting rods —
Crank shaft — Flywheel shaft — Thrust shaft — 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 — Identification mark — Flywheel shaft, material — Identification mark —
Thrust shaft, material — Identification mark — Intermediate shafts, material — Identification marks —
Tube shaft, material — Identification mark — Screw shaft, material — Identification mark —

Identification marks on air receivers FORD PORT AFT PORT FORD STBD AFT STBD
£ 62 ↑ 1175 £ 60 ↑ 1175 £ 55 ↑ 1175 £ 56 ↑ 1175
(ALL) TESTED TO 600 LBS. 388-346

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 Eight 2-gallon hand chemical extinguishers and four water hoses.
Is the vessel (not being an oil tanker) fitted for carrying oil as cargo D.B. Tanks, fuel 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 ✓
Is this machinery duplicate of a previous case Yes If so, state name of vessel M.V. BUCKIE

General Remarks (State quality of workmanship, opinions as to class, &c.)
These main engines were built in accordance with Ruston & Hornsby specification under the inspection of Australian Army Authorities and crank shafts have been verified with approved plan of Ruston & Hornsby (6.V.C.B.-235). All machinery has now been examined in accordance with Rule requirements for special service found in good condition, properly installed and has been tested under working conditions with satisfactory results. The materials and workmanship throughout are good. The machinery is, in our opinion, eligible to be classed with records of L.M.C. 9.47 and tail shafts see 12.46 to be made in the Register Book.

The amount of Entry Fee ... £ ✓ :
Special ... £ 33 : 0 : When applied for 9/9/1947
Donkey Boiler Fee... £ : : When received 19
Travelling Expenses (if any) £ : :
Committee's Minute L.M.C. 9.47 (with endorsement)
Assigned —
FRI. 5 DEC 1947
Lloyd's Register Foundation