

Rpt. 4b.

# REPORT ON OIL ENGINE MACHINERY.

No. 101367  
JUL 1943

Received at London Office

Date of writing Report 22 JUN 1943 When handed in at Local Office 22 JUN 1943 Port of NEWCASTLE-ON-TYNE  
No. in Survey held at Newcastle on Tyne Date, First Survey 6 August, 1942 Last Survey 7th June 1943  
Reg. Book. Number of Visits 55

Single  
Twin  
Triple  
Quadruple

Screw vessel "NACELLA"

Tons { Gross 8196.39  
Net 4774.25

Built at Newcastle (Wallsend) By whom built Swan, Hunter & Wigham Richardson Ld Yard No. 1675 When built 1943-  
Engines made at Cleuson By whom made Harland & Wolff Ld Engine No. G.O. 8458/2 When made 1943-  
Donkey Boilers made at Newcastle (Wallsend) By whom made Swan, Hunter & Wigham Richardson Ld Boiler No. 1734 When made 1943  
Brake Horse Power 3300 Owners Angle-Saxon Petroleum Co. Ld. Port belonging to London  
Nom. Horse Power as per Rule 490 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes  
Trade for which vessel is intended Ocean going. Carrying Petroleum in bulk.

## OIL ENGINES, &c.—Type of Engines Heavy oil, airless type 2 or 4 stroke cycle 4. Single or double acting Single

Maximum pressure in cylinders 700 lb See also Cleuson Rpt no 66338.  
Mean Indicated Pressure 128 lb Diameter of cylinders 740 mm Length of stroke 1500 mm No. of cylinders 6 No. of cranks 6

Span of bearings, adjacent to the Crank, measured from inner edge to inner edge ✓ Is there a bearing between each crank ✓  
Revolutions per minute 110 Flywheel dia. 2489 mm Weight 2590 Kg. Means of ignition Heat & Compression Kind of fuel used Heavy fuel oil

Crank Shaft, { Solid forged ✓ dia. of journals as per Rule ✓ Crank pin dia. ✓ Crank Webs Mid. length breadth ✓ Thickness parallel to axis shrunk  
{ Semi-built ✓ as fitted ✓ Mid. length thickness ✓ Thickness around eyehole ✓  
{ All built ✓

Flywheel Shaft, diameter as per Rule ✓ Intermediate Shafts, diameter as per Rule 13.7 Thrust Shaft, diameter at collars as per Rule ✓  
as fitted ✓ as fitted 17 3/4 as fitted ✓

Tube Shaft, diameter as per Rule ✓ Screw Shaft, diameter as per Rule 15.03 Is the tube shaft fitted with a continuous liner ✓  
as fitted ✓ as fitted 16 as fitted 18 1/2

Bronze Liners, thickness in way of bushes as per Rule 24.25 Thickness between bushes as per Rule 18 1/2 Is the after end of the liner made watertight in the  
as fitted 13/16 as fitted 3/4

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 In one length

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 a tight fit

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 the tube ✓

shaft No If so, state type ✓ Length of Bearing in Stern Bush next to and supporting propeller 5' 4 1/2"

Propeller, dia. 16' 0" Pitch 12' 0" No. of blades 4 Material M. Bronze whether Moveable No Total Developed Surface 88 sq. feet

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

Thickness of cylinder liners ✓ 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. 1 1 M.C. Driven 180 ton/hr S.W. 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 One Ballast Pump 12' x 8 1/2' x 12' duplex & Two Bilge Pumps 8' x 8' x 10' duplex  
How driven 120 ton/hr all by steam each 80 ton/hr

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 One 12' x 8 1/2' x 12' duplex Power Driven Lubricating Oil Pumps, including Spare Pump, No. and size 1 M.E. driven 100 ton/hr

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 3 1/2", 2 1/2" (of gutterway), 1 1/2" to D.B. Cofferdam. In Pump Rooms 2 1/4" each

In Holds, &c. 2 1/2" Hold 2 1/2"; 7 Hold Pump Rm 1 1/2"; 7 Hold Store 2 1/2"; 7 H.A. main Cofferdams 1 1/4" each.

Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size Two 1/2"

Are all the Bilge Suction pipes in Holds and Tanker 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 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

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 None machy 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. Two No. of stages One of 120 cub ft/min & one of 90 cub ft/min Stroke ✓ Driven by Steam & oil engines

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

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

Scavenging Air Pumps, No. None Diameter ✓ Stroke ✓ Driven by ✓

Auxiliary Engines crank shafts, diameter as per Rule ✓ No. One 4 cyl oil by driving Aux Compressor and 30 KW Gen. Position over Stbd Side in E. Rm.

Have the Auxiliary Engines been constructed under special survey Yes Is a report sent herewith Nottingham Certy C. 1238 of 1/2/43.



**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 *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.** *None* Cubic capacity of each ✓ Internal diameter ✓ thickness ✓  
 Seamless, lap welded or riveted longitudinal joint ✓ Material ✓ Range of tensile strength ✓ Working pressure by Rules ✓ Actual ✓  
**Starting Air Receivers, No.** *2* Total cubic capacity *900 cub ft* Internal diameter *6'6"* thickness *1 1/2"* ✓  
 Seamless, lap welded or riveted longitudinal joint *Riveted* Material *Steel* Range of tensile strength *shell 29 to 33 tons* Working pressure by Rules *358th* ✓ Actual *356th* ✓

**IS A DONKEY BOILER FITTED?** *Yes (Two)* If so, is a report now forwarded? *Yes* ✓  
 Is the donkey boiler intended to be used for domestic purposes only *No. For Steam Auxys etc.* ✓  
**PLANS.** Are approved plans forwarded herewith for Shafting *27/4/43* Receivers *8/1/43* Separate Fuel Tanks ✓  
 (If not, state date of approval) Donkey Boilers *20/11/41* General Pumping Arrangements *at J.A. Inds 20/4/42* Pumping Arrangements in Machinery Space *18/5/42*  
 Oil Fuel Burning Arrangements *18/5/42*

**SPARE GEAR.**

Has the spare gear required by the Rules been supplied *Yes* ✓  
 State the principal additional spare gear supplied *4 Exhaust Valves complete, 1 set of piston rings & 1 set of scraper rings for one piston, 1 pair of main bearing brasses, 1 chain for each chain drive, 1 complete set of spares for Cylinder lubricators of main & auxy engines.*

The foregoing is a correct description, *RICHARDSON, LTD.*  
*M. Sney* Manufacturer.

Dates of Survey while building  
 During progress of work in shops -- *1942*  
 During erection on board vessel -- *1943*  
 Total No. of visits *55*  
*AUG. 6 SEPT. 18. OCT. 28. NOV. 4. 12. 16. 30. DEC. 2. 16.*  
*JAN. 14. 18. FEB. 15. 16. 19. 23. 26. MAR. 3. 4. 8. 9. 11. 12. 15. 19. 22. 23. 26. 29. APR. 5. 8. 12. 15. 14. 16. 21. 22. 28. MAY. 6. 7. 10. 11. 12. 14. 18. 21. 25. 26.*  
*MAY. 31. JUNE. 4. 7.*

Dates of Examination of principal parts—Cylinders ✓  
 Crank shaft ✓ Flywheel shaft ✓ Covers ✓ Pistons ✓ Rods ✓ Connecting rods ✓  
 Thrust shaft ✓ See Glasgow Report No 66338. Intermediate shafts *7-3-43*. Tube shaft *none*.  
 Screw shaft *27/2/43* Propeller *12/3/43* Stern tube *5/3/43* Engine seatings *12/3/43* Engines holding down bolts *15/4/43*.  
 Completion of fitting sea connections *12/3/43* 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 *7 5th* Identification Marks *11684 HAT. 575*  
 Tube shaft, Material ✓ Identification Mark ✓ Screw shaft, Material *7 5th* Identification Mark *11684 HAT. 574*

Identification Marks on Air Receivers  
*on the Two Starting Air Receivers*  
**LOYD'S TEST**  
*584th*  
*WP 356th*  
*19-3-43 AW (AW)*

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* ✓  
 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 *not desired* ✓  
 Is this machinery duplicate of a previous case *No* If so, state name of vessel ✓

**General Remarks** (State quality of workmanship, opinions as to class, &c.) *The machinery has been installed on board the vessel under Special Survey in accordance with the approved plans and the Society's Rules, and the materials and workmanship are good.*  
*The machinery has been satisfactorily tested under working conditions with vessel moored, and is eligible in my opinion, for record + LMC G. 43, and the notation 2 DB, WP 180th, FD. Ch. 06 Eng. mechy aft.*  
*The Steam pipes of the 2 Donkey Boilers are Weldless Steel Tubes of Basic Bessemer Steel made at Corby, in accordance with Maker's (Stewart & Lloyd's) advice notes attached, The WP is 180th.*

The amount of Entry Fee .. £  
 Special *1/3 2/198-10* £ *32 : 17*  
 2 Starting Air Receivers Fee .. £ *8*  
 2 Donkey Boilers Fee .. £ *26 : 48*  
 Travelling Expenses (if any) £ ..  
 When applied for, *29 JUN 1943*  
 When received, ..

*A Watt*  
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute *FRI. 16 JUL 1943*  
 Assigned *+ LMC G. 43 Ch 2013 180 lbs.*

