

Rpt. 4b.

## REPORT ON OIL ENGINE MACHINERY.

No. 101367

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 4 June 1943

Reg. Book.

Number of Visits 55

Single  
on the Twin  
Triple  
Quadruple  
Screw vessel

"NACELLA"

Tons { Gross 8196.39  
Net 4774.25

Built at Newcastle (Wallsend)

By whom built Swan, Hunter &amp; Wigham Richardson Ltd

Yard No. 1675 When built 1943-

Engines made at Glasgow

By whom made Harland &amp; Wolff Ltd

Engine No. 608458/2 When made 1943-

Donkey Boilers made at Newcastle (Wallsend)

By whom made Swan, Hunter &amp; Wigham Richardson Ltd

Boiler No. 1734 When made 1943

Brake Horse Power 3300

Owners Anglo-Saxon Petroleum Co. Ltd.

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, &amp;c.—Type of Engines Heavy oil, airless 2 or 4 stroke cycle 4. Single or double acting Single

Maximum pressure in cylinders 700 lb See also Glasgow 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 &amp; Compression

Kind of fuel used Heavy fuel oil

Crank Shaft,

{ Solid forged  
Semi built  
All built

dia. of journals as per Rule

Crank pin dia. as fitted

Crank Webs

Mid. length breadth

Mid. length thickness

Thickness parallel to axis

Thickness around eyehole

Flywheel Shaft, diameter as per Rule

Intermediate Shafts, diameter as per Rule

Thrust Shaft, diameter at collars as per Rule

Tube Shaft, diameter as per Rule

Screw Shaft, diameter as per Rule

Is the screw shaft fitted with a continuous liner

Bronze Liners, thickness in way of bushes as per Rule

Thickness between bushes as per Rule

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 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. B. M. 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 decelerated 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 Lags 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 Cutty S.W. 250 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. 1 &amp; 2 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 &amp; Two Bilge Pumps 8' x 8' x 10' duplex

How driven 120 tons/hr all by steam each 80 tons/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 ME driven 100 tons/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 7 3 1/2", 2 9 2 1/2" (of gutterways), 1 9 2 1/2" to D.B. Cofferdam. In Pump Rooms 2 9 4 in each

In Holds, &amp;c. 2 2 2 1/2" 7 7 1/2" Pump Rm 1 9 2 1/2" 7 7 1/2" Str 2 9 2 1/2" 7 7 1/2" Main Cofferdams 1 9 4 in each.

Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size Two 2 6"

Are all the Bilge Suction pipes in Holds and Turret 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 off 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 9 120 cu ft/min Stroke Driven by Steam engine

Small Auxiliary Air Compressors, No. None No. of stages One 9 90 cu ft/min Stroke Driven by Oil engine

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

Scavenging Air Pumps, No. Diameter Stroke Driven by

Auxiliary Engines crank shafts, diameter as per Rule No. One 4 1/2" oil by driving Air engine and 30 kW pump

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

Certified C. 1238 9 1/2/43. Control over.

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AIR RECEIVERS:—Have they been made under survey *Yes*

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*

Injection Air Receivers, No. *None* Cubic capacity of each *✓*

Seamless, lap welded or riveted longitudinal joint *✓* Material *✓*

Starting Air Receivers, No. *2* Total cubic capacity *900 cub ft*

Seamless, lap welded or riveted longitudinal joint *Riveted* Material *Steel*

IS A DONKEY BOILER FITTED? *Yes (Two)*

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*

Donkey Boilers *20/11/41* General Pumping Arrangements *at F.A. Inds 20/4/42*

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 scrapers*

*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.*

Dates of Survey while building  
During progress of work in shops-- *1942*  
During erection on board vessel-- *1943*  
Total No. of visits *55*

Dates of Examination of principal parts—Cylinders *✓*

Crank shaft *✓* Flywheel shaft *✓* See *Glasgow Report No 66338*

Screw shaft *27/2/43* Propeller *12/3/43* Stern tube *5/3/43* Engine seatings *12/3/43*

Completion of fitting sea connections *12/3/43* Completion of pumping arrangements *15/4/43*

Crank shaft, Material *✓* Identification Mark *✓* Flywheel shaft, Material *✓* Identification Mark *✓*

Thrust shaft, Material *✓* Identification Mark *✓* Intermediate shaft, Material *75th* Identification Marks *11684 HAT. 575*

Tube shaft, Material *✓* Identification Mark *✓* Screw shaft, Material *75th* 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

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 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. C.L. 06 Eng. Machy aft.*

*The Steam pipes of the 2 Donkey Boilers are Weldless Steel Tubes of Basic Bessemer*

*Steel made at Corby, in accordance with Makers' (Stewart & Lloyd's) advice notes*

*attached, The WP is 180th.*

The amount of Entry Fee *£ 32 : 17 : 11*

Special *1/3 2/198-10* *2 Starting Air Receivers* *8*

*2 Donkey Boilers* *26*

Travelling Expenses (if any) *£*

Committee's Minute *FRI. 16 JUL 1943*

Assigned *+LMC G. 43 Ch*

*2013 180th.*

State No. of Report or Certificate *✓*

Is a drain fitted at the lowest part of each receiver *Yes*

Internal diameter *✓* thickness *✓*

Range of tensile strength *✓* Working pressure *by Rules Actual*

Internal diameter *6'6"* thickness *1 1/2"*

Range of tensile strength *shell 29th 33th* Working pressure *by Rules Actual*

Working pressure *358th* *356th*

If so, is a report now forwarded? *Yes*

Receivers *8/1/43* Separate Fuel Tanks *✓*

Pumping Arrangements in Machinery Space *18/5/42*

Manufacturer.

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



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