

REPORT ON OIL ENGINE MACHINERY.

No. 94605

20 JAN 1937

Received at London Office

NEWCASTLE-ON-TYNE

Date of writing Report

10

When handed in at Local Office

1911 1937 Port of

No. in Survey held at Reg. Book.

Wallsend

Date, First Survey

2 March 1936

Last Survey

12 Jan 1937

Number of Visits

91

Single on the ~~Twin~~ ~~Triple~~ ~~Quadruple~~ Screw vessel

HYLTON

Tons Gross Net

Built at Sunderland By whom built Pickersill & Sons (Ld) Yard No. 232 When built 1937
 Engines made at Wallsend By whom made North Eastern Marine Eng Co. Ld Engine No. 2841 When made 1937
 Donkey Boilers made at Wallsend By whom made North Eastern Marine Eng Co. Ld Boiler No. 2841 When made 1937
 Brake Horse Power 2110 Owners W. A. Souther & Co Ld. Port belonging to Newcastle on Tyne
 Nom. Horse Power as per Rule 343 Is Refrigerating Machinery fitted for cargo purposes NO Is Electric Light fitted Yes
 Trade for which vessel is intended 24 3/8 51 1/8"

OIL ENGINES, &c. Type of Engines Diesel Airless Injection 2 or 4 stroke cycle 4 Single or double acting Single
 Maximum pressure in cylinders 700 lbs Diameter of cylinders 6 20 m/m Length of stroke 1300 m/m No. of cylinders 6 No. of cranks 6
 Span of bearings, adjacent to the Crank, measured from inner edge to inner edge 8 60 m/m Is there a bearing between each crank Yes
 Revolutions per minute 106.5 Flywheel dia. 8' 11" Weight 11.57 tons Means of ignition Compressor Kind of fuel used Heavy oil
 Crank Shaft, dia. of journals as per Rule app 4 25 m/m as fitted 4 25 m/m Crank pin dia. 4 25 m/m Crank Webs Mid. length breadth 850 m/m Thickness parallel to axis 265 m/m
 Flywheel Shaft, diameter as per Rule 4 25 m/m as fitted 4 25 m/m Intermediate Shafts, diameter as per Rule 11 5/8" as fitted 11 3/4" Thrust Shaft, diameter at collars as per Rule 12 1/4" as fitted 12 1/4"
 Tube Shaft, diameter as per Rule 12 7/8" as fitted 13" Is the screw shaft fitted with a continuous liner Yes
 Bronze Liners, thickness in way of bushes as per Rule 11/16" as fitted 23/32" Thickness between bushes as per rule 9/16" as fitted 23/32" 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 — Is an approved Oil Gland or other appliance fitted at the after end of the tube shaft No If so, state type —
 Propeller, dia. 15' 0" Pitch Varying 12 ft at tip No. of blades 4 Material Brass whether Moveable No Total Developed Surface 88 sq. feet
 Method of reversing Engines Compressed Air Is a governor or other arrangement fitted to prevent racing of the engine when disengaged Yes Means of lubrication Forced
 Thickness of cylinder liners 50 m/m 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 To funnel
 Cooling Water Pumps, No. one Is the sea suction provided with an efficient strainer which can be cleared within the vessel Yes
 What special arrangements are made for dealing with cooling water if discharged into bilges Overboard

Bilge Pumps worked from the Main Engines, No. one Diameter 140 m/m Stroke 254 m/m Can one be overhauled while the other is at work —
 Pumps connected to the Main Bilge Line No. and Size 1-9x11x10 How driven Steam
 Ballast Pumps, No. and size 1-9x11x10 Power Driven Lubricating Oil Pumps, including Spare Pump, No. and size 1-7x7x8 1 on Main Engines and 1 on bilge
 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" diameter: Engine Room Cofferdams. Forward 1 @ 2 1/2" In Pump Room
 In Holds, &c. Nº1 - 2 @ 3" : Nº2 - 2 @ 2 1/2" : Nº3 - 2 @ 3 1/2" : Nº4 - 2 @ 3" : Nº5 - 2 @ 3" : Funnel well 1 - @ 3"
 Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size 2 - 5" dia.
 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 Forward Bilge 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 Upper deck level
 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. Airless injection No. of stages 2 Diameters — Stroke — Driven by —
 Auxiliary Air Compressors, No. Two No. of stages 2 Diameters HP 3 1/2" LP 5 1/4" Stroke 7" Driven by Steam
 Small Auxiliary Air Compressors, No. — No. of stages — Diameters — Stroke — Driven by —
 Scavenging Air Pumps, No. — Diameter — Stroke — Driven by —
 Auxiliary Engines crank shafts, diameter as per Rule — as fitted — No. — Position —

AIR RECEIVERS:—Is each receiver, which can be isolated, fitted with a safety valve as per Rule Yes fitted on Compressor
 Can the internal surfaces of the receivers be examined and cleaned Yes Is a drain fitted at the lowest part of each receiver Yes
 High Pressure Air Receivers, No. — 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. Two Total cubic capacity 350 Cubic feet Internal diameter 5' 3" thickness 1 1/8"
 Seamless, lap welded or riveted longitudinal joint T.R.D.B.S. Material Steel Range of tensile strength 29/33 tons Working pressure by Rules 455 lbs Actual 450 lbs

RECEIVED
 20 JAN 1937
 W404-0036

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 Tanks *Yes*
 Donkey Boilers *Yes* General Pumping Arrangements *Yes* Oil Fuel Burning Arrangements *No*

SPARE GEAR.

Has the spare gear required by the Rules been supplied? *Yes To Rule.*
 State the principal additional spare gear supplied: *1 set of studs & nuts for valves on 1 cylinder, 1 set of bearings Top & bottom ends & main bearing, 6 Exhaust valves, 2 inlet valves, 2 cylinder relief valves, 1 Fuel pump with complete, 3 Reversing Engine piston rings, 6 camshaft coupling bolts, 1 Cast iron propeller, 1 propeller shaft, spare links for cam shaft chain, 1 piston, 2 starting air valves, 1 Piston cooling bronze pipe.*
Compressors. 1 pair top & bottom end braces & bolts & nuts, 1 set of piston rings for steam cylinders & for air cylinders, 2 sets each of valve plates & springs.
Auxiliary pumps. 1 set of piston rings for each size fitted, 1 set of bucket rings for each size fitted, 1 set each of valves for each size.
Oil burning Installation. 4 burner bodies & caps, 16 nozzles, 16 diaphragms, 1 set of valves & springs.
Van engine 1 set of piston rings, 1 pair each of top & bottom end bolts.
Boilers - 1 safety valve spring.

The foregoing is a correct description.

For THE NORTH EASTERN MARINE ENGINEERING CO LTD
John Neill Manufacturer.

Dates of Survey while building	During progress of work in shops - -	1936 Mar. 2, 10, 12, 16, 30. Apr. 1, 6, 15, 17, 21, 23, 27. May 4, 5, 13, 18. June 5, 10, 11. July 7, 10, 14, 16, 21, 24, 28, 29, 30. Aug. 4, 10, 12, 14, 18, 19, 20, 21, 24, 25, 26, 27, 28, 31. Sep. 1, 3, 7, 8, 9, 11, 15, 17, 18, 22, 23, 30. Oct. 5, 13, 15, 16, 21, 22, 23, 26, 29. Nov. 3, 4, 5, 6, 9, 10, 11, 12, 18, 24, 25, 30. Dec. 3, 4, 8, 9, 18, 22, 23, 28, 29, 30. 1937 Jan. 5, 6, 7, 8, 11, 12.
	During erection on board vessel - -	
	Total No. of visits	<i>91</i>

Dates of Examination of principal parts - Cylinders	<i>21-8-36</i>	Covers	<i>12-8-36</i>	Pistons	<i>31-8-36</i>	Rods	<i>1.9.36</i>	Connecting rods	<i>1.9.36</i>
Crank shaft	<i>26-8-36</i>	Flywheel shaft	<i>9-12-36</i>	Thrust shaft	<i>28-6-36</i>	Intermediate shafts	<i>23-9-36</i>	Tube shaft	<i>-</i>
Screw shaft	<i>8-9-36</i>	Propeller	<i>8-9-36</i>	Stern tube	<i>3-9-36</i>	Engine seatings	<i>18-11-36</i>	Engines holding down bolts	<i>23-12-36</i>
Completion of fitting sea connections	<i>8-10-36</i>	Completion of pumping arrangements	<i>12-1-37</i>	Engines tried under working conditions	<i>12-1-37</i>				
Crank shaft, Material	<i>Steel</i>	Identification Mark	<i>N° 2541. H.C.F. 26-8-36</i>	Flywheel shaft, Material	<i>Steel</i>	Identification Mark	<i>N° 6626. WEL. J.E.S. 25-9-36: 9-12-36</i>		
Thrust shaft, Material	<i>Steel</i>	Identification Mark	<i>N° 8737. J.D. H.C.F. 28-5-36: 26-8-36</i>	Intermediate shafts, Material	<i>Steel</i>	Identification Marks	<i>N° 5901. J.D. H.C.F. 23/9/36</i>		
Tube shaft, Material	<i>-</i>	Identification Mark	<i>-</i>	Screw shaft, Material	<i>Steel</i>	Identification Mark	<i>N° 8723. W.F. H.C.F. 8-9-36</i>		

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 *No* 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 *Yes*
 Is this machinery duplicate of a previous case *No* If so, state name of vessel *Yes*

General Remarks (State quality of workmanship, opinions as to class, &c.)
The machinery of this vessel has been constructed under special survey in accordance with the Rules and approved plans; the materials and workmanship are good. The machinery has been efficiently installed in the vessel, examined under working conditions and found satisfactory, and is eligible, in our opinion, for classification, and to have the Record L.M.C. 1.37 - C.L. in the Register Book.

The amount of Entry Fee .. £	<i>5 : 0 : 0</i>	When applied for,	
Special £	<i>76 : 9 : 0</i>	19 JAN 1937	
Donkey Boiler Fee .. £	<i>13 : 15 : 0</i>	When received,	
2 Reversed Air Receivers	<i>4 : 4 : 0</i>	29.1.1937	
Travelling Expenses (if any) £	<i>4 : 4 : 0</i>		

H.B. Forster & *J. Lillis*
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute *FRI 29 JAN 1937*
 Assigned *+ Lmbs 1.37 258-15016*
Oct. Inf. Cf.



Newcastle-on-Tyne

The Surveyors are requested not to write on or below the space for Committee's Minutes.