

## REPORT ON OIL ENGINE MACHINERY

No. 87212

2 JUN 1931

Received at London Office

NEWCASTLE-ON-TYNE

Date of writing Report 19 When handed in at Local Office

30/5/31 Port of

No. in Survey held at Newcastle  
Reg. Book.Date, First Survey 18 Aug 1930 Last Survey 28 May 1931  
Number of Visits 98on the <sup>Single</sup> Twin Screw vesselTons <sup>Gross</sup>  
<sub>Net</sub>

Built at Belfast

By whom built

Workman Clark &amp; Co Ltd

Yard No. 518 When built 1931

Engines made at Wallsend

By whom made

North Eastern Marine Co Ltd

Engine No. 2417 When made 1931

Donkey Boilers made at

By whom made

Boiler No. When made

Brake Horse Power 4000

Owners

Port belonging to

Nom. Horse Power as per Rule 414

Is Refrigerating Machinery fitted for cargo purposes

Is Electric Light fitted

Trade for which vessel is intended

IL ENGINES, &amp;c.

Type of Engines

Werkspoor Supercharged.

2 or 4 stroke cycle 4 Single or double acting S.A.

Maximum pressure in cylinders 550 lb

Diameter of cylinders 630 mm

Length of stroke 1100 mm

No. of cylinders 12

No. of cranks 12

Span of bearings, adjacent to the Crank, measured from inner edge to inner edge 840 mm

Is there a bearing between each crank yes

Revolutions per minute 135

Flywheel dia. 2260 mm

Weight 6 1/2 tons

Means of ignition compression

Kind of fuel used F.P. oil 150°F

Crank Shaft, dia. of journals as per Rule 398 mm

Crank pin dia. 410 mm

Crank Webs

Mid. length breadth 440 mm

shrink

Thickness parallel to axis 245 mm

Flywheel Shaft, diameter as per Rule 398 mm

Intermediate Shafts, diameter as per Rule

Thrust Shaft, diameter at collars as per Rule 284 mm

as fitted 300 mm

Tube Shaft, diameter as fitted

Screw Shaft, diameter as fitted

Is the tube 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 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

haft If so, state type

Length of Bearing in Stern Bush next to and supporting propeller

Propeller, dia.

Pitch

No. of blades

Material

whether Moveable

Total Developed Surface

sq. feet

Method of reversing Engines compressed 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 40 mm

Are the cylinders fitted with safety valves yes

Are the exhaust pipes and silencers water cooled or 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. 2 @ 250 mm x 254 Stroke D.A. Is the sea suction provided with an efficient strainer which can be cleared within the vessel

Bilge Pumps worked from the Main Engines, No. 4

Diameter 2 @ 150 mm

Stroke 254 mm

Can one be overhauled while the other is at work yes

Pumps connected to the Main Bilge Line

No. and Size

How driven

Ballast Pumps, No. and size

Lubricating Oil Pumps, including Spare Pump, No. and size 2 @ 35 TONS/HOUR ROTARY

Are two independent means arranged for circulating water through the Oil Cooler

Suctions, connected to both Main Bilge Pumps and Auxiliary Bilge

Pumps, No. and size:—In Machinery Spaces

In Pump Room

In Holds, &amp;c.

Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size

Are all the Bilge Suction pipes in Holds and Tunnel Well fitted with strum-boxes

Are the Bilge Suctions in the Machinery Spaces

and from easily accessible mud-boxes, placed above the level of the working floor, with straight tail pipes to the bilges

Are all Sea Connections fitted direct on the skin of the ship

Are they fitted with Valves or Cocks

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

Are they each fitted with a Discharge Valve always accessible on the plating of the vessel

Are the Blow Off Cocks fitted with a spigot and brass covering plate

What pipes pass through the bunkers

How are they protected

What pipes pass through the deep tanks

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

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

apartment to another

Is the Shaft Tunnel watertight

Is it fitted with a watertight door

worked from

On 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. 2

No. of stages 3

Diameters 120, 440, 520

Stroke 450 mm

Driven by main engines

Auxiliary Air Compressors, No.

No. of stages

Diameters

Stroke

Driven by

Small Auxiliary Air Compressors, No.

No. of stages

Diameters

Stroke

Driven by

Savenging Air Pumps, No.

Diameter

Stroke

Driven by

Auxiliary Engines crank shafts, diameter as per Rule

No.:

R RECEIVERS:—Is each receiver, which can be isolated, fitted with a safety valve as per Rule

Are the internal surfaces of the receivers be examined and cleaned

Is a drain fitted at the lowest part of each receiver

High Pressure Air Receivers, No. 2

Cubic capacity of each 400 Litres

Internal diameter 450 mm

thickness 21 mm

Unless, lap welded or riveted longitudinal joint seamless

Material Steel

Range of tensile strength 32 to 36 tons sq. in.

Working pressure by Rules 155 lbs sq. in.

Actual 1100 lbs sq. in.

Starting Air Receivers, No.

Total cubic capacity

Internal diameter

thickness

Unless, lap welded or riveted longitudinal joint

Material

Range of tensile strength

Working pressure by Rules

Actual

Lloyd's Register  
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W18-005-8



IS A DONKEY BOILER FITTED?

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  
(If not, state date of approval)

Receivers

Separate Tanks

Donkey Boilers

General Pumping Arrangements

Oil Fuel Burning Arrangements

### SPARE GEAR.

Has the spare gear required by the Rules been supplied

State the principal additional spare gear supplied

as per list enclosed.

The foregoing is a correct description,  
The NORTH EASTERN MARINE ENGINEERING CO., LTD.  
SECRETARY

Manufacturer.

Dates of Survey while building  
During progress of work in shops - 1930 Aug. 18, 22, 25, Sep. 1, 8, 19, Oct. 3, 9, 15, 18, 20, 21, 23, 26, 28, 31, Nov. 4, 10, 11, 13, 17, 18, 20, 21, 22, 23, 26, 28, 31, Dec. 1, 2, 4, 5, 9, 16, 17, 18, 23, 26, 27, 30, 31, 1931 Jan. 5, 7, 12, 13, 16, 19, 20, 21, 26, Feb. 4, 5, 6, 9, 11, 13, 16, 17, 19, 24, 25, 27, Mar. 2, 3, 4, 5, 6, 9, 12, 13, 16, 19, 23, 26, 27, 30, 31, Apr. 2, 8, 9, 10, 13, 17, 20, 22, 27, May 1, 5, 6, 7, 13, 14, 18, 20, 22, 28.  
Total No. of visits 90.

Dates of Examination of principal parts - Cylinders 2.7.31 Covers } One casting All complete & tested } All finished & tested } Pistons 24.8.31 Rods 26.1.31 Connecting rods 26.1.31  
Crank shaft 29.8.30 8.8.30 Flywheel shaft 20.10.30 Thrust shaft 20.10.30 Intermediate shafts ✓ Tube shaft ✓

Screw shaft ✓ Propeller ✓ Stern tube ✓ Engine seatings ✓ Engines holding down bolts ✓

Completion of fitting sea connections ✓ Completion of pumping arrangements ✓ Engines tried under working conditions ✓

Crank shafts Material Ingot steel Identification Mark 3804 JQ. 9.5846 Flywheel shaft, Material Ingot steel Identification Mark 3887/8 WVB

Thrust shafts Material " Identification Mark 3887.8 WVB Intermediate shafts, Material ✓ Identification Marks ✓

Tube shaft, Material ✓ Identification Mark ✓ Screw shaft, Material ✓ Identification Mark ✓

Is the flash point of the oil to be used over 150° F. ✓

Have the requirements of the Rules for oil fuel pipes and tank fittings been complied with ✓

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

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.)

These twin sets of engines have been constructed under special survey in accordance with rule requirements & the materials and workmanship are good. The starboard set was run on bench trials for several days under full load & the trials were satisfactory. The engines have now been dismantled & shipped to Belfast where they will be installed on board and on completion the vessel will be eligible in our opinion for record of +LMC (with date)

The amount of Entry Fee .. £ 6 : 0 : 0  
Special 4.5 hrs. per 88-11-0  
Donkey Boiler Fee ... £ : :  
Travelling Expenses (if any) £ : :  
When applied for, 1 JUN 1931  
When received, 15 June 1931

Committee's Minute

Assigned

See Bel 2.E 10750

Engineer Surveyor to Lloyd's Register of Shipping.

E. J. Hoddart.



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