

10 DEC 1931
16 DEC 1931

pt. 4b.

REPORT ON OIL ENGINE MACHINERY

No. 87428

14 AUG 1931

Received at London Office

10 AUG 1931 Port of NEWCASTLE-ON-TYNE

Date of writing Report 19 When handed in at Local Office 19 Date, First Survey September 1930 Last Survey Aug 6th 1931
Number of Visits 73

Survey held at Wallsend-on-Tyne
on the ^{Single} ~~Twin~~ ~~Triple~~ Screw vessel
Built at Belfast
Engines made at Wallsend
By whom built Workman Clark & Co Ld
By whom made North Eastern Har & Co Ld
Boiler No. When made
Horse Power 4000
Owners
Is Refrigerating Machinery fitted for cargo purposes
Is Electric Light fitted

ENGINES, &c. Type of Engines Twin screw Werkspoor Supercharged. 2 or 4 stroke cycle H Single or double acting S.A.
Maximum pressure in cylinders 550 lbs. Diameter of cylinders 630 M/M. Length of stroke 1100 M/M. No. of cylinders 12. No. of cranks 12.
Distance between bearings, adjacent to the Crank, measured from inner edge to inner edge 840 M/M. Is there a bearing between each crank Yes.
Revolutions per minute 135 Flywheel dia. 2260 M/M. Weight 6 1/2 tons Means of ignition Compression. Kind of fuel used F. Above 150° F.
Crank Shaft, dia. of journals as per Rule 398 M/M. Crank pin dia. 410 M/M. Crank Webs Mid. length breadth 410 M/M. Thickness parallel to axis 245 M/M.
as fitted 410 M/M. Mid. length thickness 245 M/M. Thickness around eyehole 149 M/M.
Flywheel Shaft, diameter as per Rule 398 M/M. Intermediate Shafts, diameter as per Rule Thrust Shaft, diameter at collars as per Rule 284 M/M.
as fitted 410 M/M. as fitted as fitted 300 M/M.

Tube Shafts, diameter as per Rule **Screw Shaft, diameter** as per Rule Is the tube shaft fitted with a continuous liner Yes
as fitted as fitted as fitted
Brass Liners, thickness in way of bushes as per Rule Thickness between bushes as fitted Is the after end of the liner made watertight in the
as fitted as fitted as fitted
If the liner is in more than one length are the junctions made by fusion through the whole thickness of the liner

Propeller boss 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
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 detached yes Means of lubrication
forced. Thickness of cylinder liners 40 M/M. 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

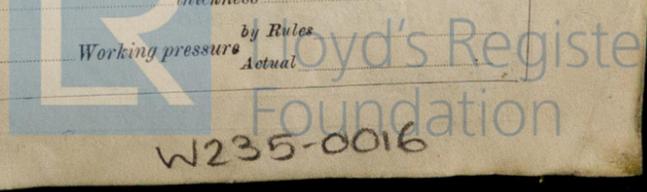
Cooling Water Pumps, No. 2 @ 250 dia x 254 stroke D.A. Is the sea suction provided with an efficient strainer which can be cleared within the vessel
Bilge Pumps worked from the Main Engines, No. H Diameter 2 @ 150 M/M Stroke 254 M/M. Can one be overhauled while the other is at work yes
Bilge Pumps connected to the Main Bilge Line No. and Size How driven

Ballast Pumps, No. and size Lubricating Oil Pumps, including Spare Pump, No. and size
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, &c.

Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size Are the Bilge Suctions in the Machinery Spaces
Are all the Bilge Suction pipes in Holds and Tunnel Well fitted with strum-boxes Are the Bilge Suctions in the Machinery Spaces
Are they fitted with Valves or Cocks
Are all Sea Connections fitted direct on the skin of the ship Are the Overboard Discharges above or below the deep water line
Are they fixed sufficiently high on the ship's side to be seen without lifting the platform plates Are the Blow Off Cocks fitted with a spigot and brass covering plate
Are they each fitted with a Discharge Valve always accessible on the plating of the vessel How are they protected
That pipes pass through the bunkers Have they been tested as per Rule
That pipes pass through the deep tanks

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
compartment to another Is the Shaft Tunnel watertight 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. Two No. of stages Three Diameters HP 120; 140; 520 Stroke 450 M/M. Driven by main engine
Auxiliary Air Compressors, No. No. of stages Diameters Stroke Driven by
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 No. — Position —
as fitted

R RECEIVERS:— Is each receiver, which can be isolated, fitted with a safety valve as per Rule
Are the internal surfaces of the receivers examined and cleaned Is a drain fitted at the lowest part of each receiver
High Pressure Air Receivers, No. Two Cubic capacity of each 400 Litres Internal diameter 450 M/M. thickness 21 M/M.
seamless, lap welded or riveted longitudinal joint Material Steel Range of tensile strength 32 to 36 tons Working pressure 155 lbs sq in
Actual 1100 lbs sq in
Starting Air Receivers, No. Total cubic capacity Internal diameter thickness
seamless, lap welded or riveted longitudinal joint Material Range of tensile strength Working pressure by Rules
Actual



W235-0016

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 *sent with to 27/1-27* Receivers

Separate Tanks

Donkey Boilers General Pumping Arrangements

Oil Fuel Burning Arrangements

SPARE GEAR.

Has the spare gear required by the Rules been supplied *yes.*

State the principal additional spare gear supplied *as per list enclosed.*

THE NORTH BRITISH ENGINEERING CO., LTD.
The foregoing is a correct description.

W. J. ...
Secretary

Manufacturer.

Dates of Survey while building: During progress of work in shops -- *Sept. 1, 8, Oct. 3, 9, 15, 20, 25, 26, Dec. 17, Jan. 19, 26, Feb. 16, 19, 24, 27, Mar. 2, 6, 11, 12, 20, 27, 30, 31*
During erection on board vessel -- *April. 8, 20, 21, 28, 29, May. 1, 5, 6, 8, 11, 13, 15, 18, 20, 22, 26, 28, 29, June. 1, 3, 4, 5, 6, 8, 9, 10, 12, 15, 17, 18, 19, 22, 29, 30, July. 1, 2, 8, 9*
Total No. of visits *73.*

Dates of Examination of principal parts: Cylinders *8-6-31* Covers *8-6-31* Pistons *8-5-31* Rods *8-4-31* Connecting rods *8-4-31*
Crank shaft *8-30-1 on 13-8-30* Flywheel shaft *20-10-30* Thrust shaft *25-11-30* 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 shaft, Material *OH Steel* Identification Mark *8281-7 JL 8320-1* Flywheel shaft, Material *OH Steel* Identification Mark *3888 wps*
Thrust shaft, Material *OH Steel* Identification Mark *3888 wps. AF* 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 *yes* If so, state name of vessel *27-1-27*

General Remarks (State quality of workmanship, opinions as to class, &c.)
This machinery has been built under Special Survey, Materials & workmanship good, hydraulic tests satisfactory. It has been shipped to Belfast for installation in the vessel. Belfast surveyors have been notified.

NEWCASTLE-ON-TYNE.

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

The amount of Entry Fee .. £ 6 : 00 :
Special *1/2th fee* £ 88 : 11 : 00 :
Donkey Boiler Fee ... £ : :
Travelling Expenses (if any) £ : :
When applied for, **13 AUG 1931**
When received, *20/8/31* 1931.

Committee's Minute **TUE. 22 DEC 1931**
Assigned *Sec. F. E. Rpt.*

William ...
Engineer Surveyor to Lloyd's Register of Shipping.

