

Rpt. 4b.

REPORT ON OIL ENGINE MACHINERY.

No. 9911

MAR 6 1940

Received at London Office

Date of writing Report 11 FEB 1940 When handed in at Local Office 4-3-40 Port of MANCHESTER.
No. in Survey held at Reg. Book. MANCHESTER. Date, First Survey 22 NOVEMBER 1940 Last Survey MAR 4 1940
Number of Visits 5.
on the Single Motor Screw vessel "NORTHGATE"
Tons { Gross 128.63
Net 223.61
Built at Willington Quay-on-Tyne By whom built CLELANDS SUCCESSORS LTD Yard No. 54. When built 1940.
Engines made at MANCHESTER By whom made CROSSLEY BROS. LTD. Engine No. 20067 When made 1940.
Donkey Boilers made at — By whom made — Boiler No. — When made —
Brake Horse Power 350. Owners — Port belonging to Hull.
Nom. Horse Power as per Rule 115 116 Is Refrigerating Machinery fitted for cargo purposes — Is Electric Light fitted —
Trade for which vessel is intended COASTING VESSEL.

OIL ENGINES, &c. Type of Engines VERTICAL SOLID INJECTION. 2 or 4 stroke cycle 2. Single or double acting SINGLE.
Maximum pressure in cylinders 690. LBS/SQ IN. Diameter of cylinders 10 1/2" Length of stroke 13 1/2" No. of cylinders 6. No. of cranks 6.
Mean Indicated Pressure 70. LBS/SQ IN. Span of bearings, adjacent to the Crank, measured from inner edge to inner edge 14 1/16" Is there a bearing between each crank YES
Revolutions per minute 325 Flywheel dia. 37 1/2" Weight 2166. LBS. Means of ignition COMPRESSION Kind of fuel used HEAVY OIL.
Crank Shaft, { Solid forged as per Rule APPROVED. 7 1/4" Mid. length breadth 9 1/4" Thickness parallel to axis SOLID.
Semi built dia. of journals as fitted 7 1/2" Crank pin dia. 7 1/4" Crank Webs Mid. length thickness 3 23/32" shrunk Thickness around eyehole
All built as fitted
Flywheel Shaft, diameter as per Rule Intermediate Shafts, diameter as per Rule Thrust Shaft, diameter at collars as per Rule
as fitted as fitted as fitted 4 3/4" APPROVED.
Tube Shaft, diameter as per Rule Screw Shaft, diameter as per Rule Is the { tube } shaft fitted with a continuous liner {
as fitted as fitted as fitted screw
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
as fitted as fitted as fitted 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
shaft If so, state type Length of Bearing in Stern Bush next to and supporting propeller
Propeller, dia. Pitch No. of blades Material whether Movable Total Developed Surface sq. feet
Method of reversing Engines DIRECT Is a governor or other arrangement fitted to prevent racing of the engine when disconnected YES Means of lubrication
FORCED Thickness of cylinder liners 1" Are the cylinders fitted with safety valves YES Are the exhaust pipes and silencers water cooled or lagged with
non-conducting material 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. ONE Is the sea suction provided with an efficient strainer which can be cleared within the vessel
Bilge Pumps worked from the Main Engines, No. ONE Diameter 4 1/4" Stroke 3" Can one be overhauled while the other is at work
Pumps connected to the Main Bilge Line { No. and Size
How driven
Is the cooling water led to the bilges 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 Power Driven Lubricating Oil Pumps, including Spare Pump, No. and size TWO { 1 3/8" x 2" STROKE
1 3/4" x 2" STROKE.
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 all the Bilge Suction pipes in Holds and Tunnel Well fitted with strum-boxes 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
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
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. ONE No. of stages TWO. Diameters 5 3/4" & 2 1/2" Stroke 4" 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
What provision is made for first Charging the Air Receivers
Scavenging Air Pumps, No. ONE, D.A. TANDEM. Diameter 20 1/2" Stroke 9 1/4" Driven by MAIN ENGINE.
Auxiliary Engines crank shafts, diameter as per Rule No. Position
as fitted
Have the Auxiliary Engines been constructed under special survey Is a report sent herewith

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

Is a drain fitted at the lowest part of each receiver

YES

Injection 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

30. CUB. FT.

Internal diameter

24 1/8"

thickness

15/32"

Seamless, lap welded or riveted longitudinal joint

RIVETED & WELDED

Material

STEEL

Range of tensile strength

Working pressure by Rules

Actual

APPROVED 350 LBS/sq.

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)

YES

Receivers

YES

Separate Fuel Tanks

Donkey Boilers

General Pumping Arrangements

Pumping Arrangements in Machinery Space

Oil Fuel Burning Arrangements

SPARE GEAR.

Has the spare gear required by the Rules been supplied

YES

State the principal additional spare gear supplied

The foregoing is a correct description,
CROSSLEY BROTHERS LIMITED,

Manufacturer.

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

1939 Nov. 22. Dec 6. 1940 JAN 25. FEB 1 MAR 4

5.

Dates of Examination of principal parts—Cylinders 22-11-39 Covers 22-11-39 Pistons 22-11-39 Rods - Connecting rods 22-11-39

Crank shaft 22-11-39 Flywheel shaft - Thrust shaft 25-1-40. 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 O.H. STEEL Identification Mark 12405. 906.422.12-13 Flywheel shaft, Material Identification Mark

Thrust shaft, Material O.H. STEEL Identification Mark 12405. 1003.422.17-18 Intermediate shafts, Material Identification Marks

Tube shaft, Material / Identification Mark Screw shaft, Material Identification Mark

Identification Marks on Air Receivers

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

If so, have the requirements of the Rules been complied with

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

Is this machinery duplicate of a previous case If so, state name of vessel

General Remarks (State quality of workmanship, opinions as to class, &c.)

THIS ENGINE HAS BEEN CONSTRUCTED UNDER SPECIAL SURVEY OF TESTED MATERIALS AND IS IN ACCORDANCE WITH THE SECRETARY'S LETTERS, APPROVED PLANS AND RULE REQUIREMENTS. THE MATERIALS AND WORKMANSHIP ARE OF A GOOD QUALITY AND THE ENGINE WHEN TESTED IN SHOP UNDER FULL LOAD CONDITIONS SHOWN SATISFACTORY RESULTS. IN MY OPINION THIS ENGINE IS SUITABLE FOR THE PURPOSE INTENDED AND WHEN SATISFACTORILY INSTALLED ON BOARD AND REPORTED UPON BY THE SOCIETY'S SURVEYORS WILL BE ELIGIBLE TO HAVE THE NOTATION OF LLOYD'S MACHINERY CERTIFICATE (WITH DATE)

The amount of Entry Fee .. £ 3 : 0 : 0

When applied for,

2/3 Special £ 19 : 3 : 0

2-3-19 40

Donkey Boiler Fee £ :

When received, as per receipts 20-8-19 40

Travelling Expenses (if any) £ : 1/2 : 0

FRI 24 JAN 1941

Committee's Minute

Assigned See Note 26. 99121

Engineer Surveyor to Lloyd's Register of Shipping.

This machinery has been satisfactorily installed aboard the Motor Vessel "Northgate", examined under full working conditions with satisfactory results & is eligible in my opinion to be classed with notation L.M.C. 141, oil engine, O.H. fuel.

Lloyd's Register of Shipping