

REPORT ON OIL ENGINE MACHINERY.

No. 111584
21 JUL 1954

Received at London Office

NEWCASTLE-ON-TYNE

Date of writing Report 19 19 When handed in at Local Office 19 JUL 1954 19 19 Port of NEWCASTLE-ON-TYNE

No. in 7181 held at WALSSEND Date, First Survey 28.11.54 Last Survey 5.1 19 54
Reg. Book. 11166 on the Single Screw vessel M.V. 'NORTHGATE' Number of Visits 5

built at WALSSEND By whom built CHELANDS (SUCCESSORS) LTD. Yard No. ✓ When built 1941
Engines made at GOVAN, GLASGOW By whom made BRITISH POLAR ENGINES LTD. Engine No. E918 When made 1952

Monkey Boilers made at ✓ By whom made ✓ Boiler No. ✓ When made ✓
Horse Power 350 Owners HULL GATES SHIPPING CO. LTD. Part belonging to HULL

I.N. Power as per Rule 40 Is Refrigerating Machinery fitted for cargo purposes ✓ Is Electric Light fitted YES
Trade for which vessel is intended OPEN SEA SERVICE

TYPE OF ENGINES, &c. — Type of Engines HEAVY OIL ENGINE M.H.H.I. 2 or 4 stroke cycle 2 Single or double acting SINGLE

Maximum pressure in cylinders 180 LB/SQ IN Diameter of cylinders 250 MM Length of stroke 420 MM No. of cylinders 4 No. of cranks 4
Mean Indicated Pressure 98.6 LB/SQ IN Ahead Firing Order in Cylinders ✓ Span of bearings, adjacent to the crank, measured from inner edge to inner edge SEE GLASGOW REPORT NO. 48846

Revolutions per minute ✓ there a bearing between each crank ✓ Kind of fuel used ✓

Flywheel dia. ✓ Weight ✓ Moment of inertia of flywheel (lbs. in² or Kg. cm.²) ✓ Means of ignition ✓

Crank Shaft, (Solid forged ✓ dia. of journals ✓ as per Rule ✓ Crank pin dia. ✓ Crank webs Mid. length breadth ✓ Thickness parallel to axis ✓
as fitted ✓ as fitted ✓ as fitted ✓ Mid. length thickness ✓ shrunk Thickness around eyehole ✓
All built ✓

Flywheel Shaft, diameter ✓ as per Rule ✓ Intermediate Shafts, diameter ✓ as per Rule ✓ Thrust Shaft, diameter at collars ✓ as fitted ✓
as fitted ✓ as fitted ✓ as fitted ✓ as per Rule ✓

Tube Shaft, diameter ✓ as per Rule ✓ Screw Shaft, diameter ✓ as per Rule ✓ Is the tube shaft fitted with a continuous liner NO
as fitted ✓ as fitted ✓ as fitted ✓ as fitted ✓

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 ✓
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 ✓
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 tube shaft YES If so, state type AS APPROVED (24/5/52) Length of bearing in Stern Bush next to and supporting propeller 1'9"

Propeller, dia. 58" Pitch 45" No. of blades 4 Material M.B. whether moveable NO Total developed surface 84 sq. feet

Moment of inertia of propeller (lbs. in² or Kg. cm.²) ✓ Kind of damper, if fitted ✓
Method of reversing Engines DIRECT Is a governor or other arrangement fitted to prevent racing of the engine when declutched YES Means of lubrication FORCED Thickness of cylinder liners 19.5 MM Are the cylinders fitted with safety valves YES Are the exhaust pipes and silencers water cooled

lagged with non-conducting material LACQUER 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 F.W. Is the sea suction provided with an efficient strainer which can be cleared within the vessel YES
25.W.

Bilge Pumps worked from the Main Engines, No. ONE Diameter 85 MM Stroke 60 MM Can one be overhauled while the other is at work ✓
Pumps connected to the Main Bilge Line { No. and size ONE - 40 TONS/HR ONE - 25 TONS/HR
How driven MOTOR DRIVEN CHAIN DRIVEN FROM AUX. DIESEL ENG.

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 1-40 TONS/HR Power Driven Lubricating Oil Pumps, including spare pump, No. and size 2-EACH 1450 G.P.H.
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 AFT 2 OF 2 1/2" FORD 1 OF 2 1/2" In pump room ✓

In holds, &c. 1 EACH PAS. 2 1/2" (AFT) 1-2 1/2" DIA. (FORD) (1-3" DIA. MAIN ENG.)

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 YES Are the bilge suction 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 AS ORIGINAL Are they fitted with valves or cocks AS ORIGINAL Are they fixed efficiently 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 AS ORIGINAL

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 ✓
That pipes pass through the bunkers NONE How are they protected ✓

That 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 ✓ 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 550-140 MM stroke 240 MM driven by MAIN ENG.

Auxiliary Air Compressors, No. AS ORIGINAL No. of stages ✓ diameters ✓ stroke ✓ driven by ✓
Small Auxiliary Air Compressors, No. ✓ No. of stages ✓ diameters ✓ stroke ✓ driven by ✓

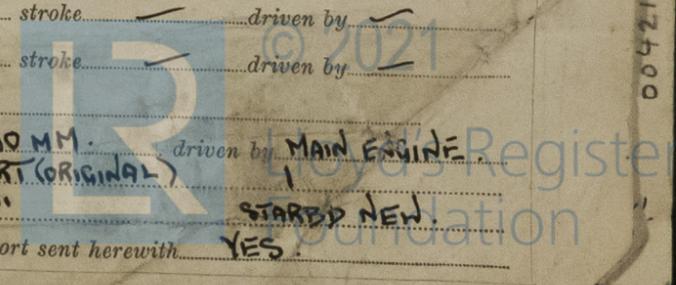
Is provision made for first charging the air receivers AS ORIGINAL
Scavenging Air Pumps, No. ONE diameter 580 MM stroke 240 MM driven by MAIN ENGINE
Auxiliary Engines crank shafts, diameter ✓ as per Rule ✓ No. 1 PORT (ORIGINAL) Position " STARTED NEW!
as fitted 3

Have the auxiliary engines been constructed under special survey YES Is a report sent herewith YES

21-8-54

004213-004221-0178

0810-122400-512400
004213-004221-0180



AIR RECEIVERS:—Have they been made under survey YES. State No. of report or certificate. C.90814, C.90823

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 Is a drain fitted at the lowest part of each receiver. YES

Injection Air Receivers, No. ✓ Cubic capacity of each ✓ Internal diameter ✓ thickness ✓

Seamless, welded or riveted longitudinal joint ✓ Material ✓ Range of tensile strength ✓ Working pressure by Rules Actual ✓

Starting Air Receivers, No. TWO. Total cubic capacity 3000 FT. Internal diameter 21" thickness 13/32

Seamless, welded or riveted longitudinal joint RIVETED Material M.S. Range of tensile strength 26/32 1/2" Working pressure by Rules. APP. Actual 355 LB

IS A DONKEY BOILER FITTED NO 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. YES Receivers 16.2.52. Separate fuel tanks. ✓

(If not, state date of approval)

Donkey boilers. ✓ General pumping arrangements. ✓ Pumping arrangements in machinery space. YES

Oil fuel burning arrangements. ✓

Have Torsional Vibration characteristics been approved. YES Date of approval. 20.3.53.

SPARE GEAR.

Has the spare gear required by the Rules been supplied. YES

State the principal additional spare gear supplied. ✓

FOR AND ON BEHALF OF
W. L. Hagg (SUCCESSORS) LIMITED,
 Manufacturer.
 DIRECTOR.

Dates of Survey while building

During progress of work in shops - - -

During erection on board vessel - - -

Total No. of visits.

Dates of examination of principal parts—Cylinders. ✓ Covers. ✓ Pistons. ✓ Rods. ✓ Connecting rods. ✓

Crank shaft. ✓ Flywheel shaft. ✓ Thrust shaft. ✓ Intermediate shafts. 5.5.54 Tube shaft. ✓

Screw shaft. 5.5.54 Propeller. 5.5.54 Stern tube. 5.5.54 Engine seatings. 14.6.54 Engine holding down bolts. 14.6.54

Completion of fitting sea connections. ✓ Completion of pumping arrangements. 5.4.54 Engines tried under working conditions. 5.4.54

Crank shaft, material. ✓ Identification mark. ✓ Flywheel shaft, material. ✓ Identification mark. ✓

Thrust shaft, material. ✓ Identification mark. ✓ Intermediate shafts, material. ✓ Identification marks. ✓

Tube shaft, material. ✓ Identification mark. ✓ Screw shaft, material. ✓ Identification mark. ✓

Identification marks on air receivers. AFT RECEIVER. L.R. NO. 90814 G.H.M. H.2.52.
FWD. RECEIVER. L.R. NO. 90823 G.H.M. H.2.52.

Welded receivers, state Makers' Name. ✓

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. ✓

Description of fire extinguishing apparatus fitted. AS ORIGINAL

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, Speed restrictions, &c. GLASGOW REPORT NO. 18846.)

The machinery (new main engine) of this vessel has been installed aboard under Special Survey in accordance with the Secretary's letters, the Requirements of the Rules & the approved Plans.

The torsional vibration characteristics have been approved for a service speed of 350 R.P.M. without restriction (Secretary's letter dated 20th March 1953).

Satisfactory basin & wet trials were carried out & the machinery is eligible in our opinion for the record of 4 NE made 52 fitted 54.

The materials & workmanship are good.

The amount of Entry Fee Instd. ... £ 20 : 0 : 0

Special ... £ : : When applied for. 19

Donkey Boiler Fee... £ : : When received. 19

Travelling Expenses (if any) £ : :

20 JUL 1954

W. L. Hagg
 Engineer Surveyor to Lloyd's Register of Shipping.



Lloyd's Register Foundation

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

Committee's Minute See Rpt 9

Assigned