

REPORT ON OIL ENGINE MACHINERY.

No. 10768b

Received at London Office 26 1950
NEWCASTLE-on-TYNE

Date of writing Report 19 When handed in at Local Office 11 SEP 1950 19

Port of NEWCASTLE-on-TYNE
Date, First Survey October 31st 1947 Last Survey August 30 1950
Number of Visits 80

No. in Survey held at Reg. Book. 90237 on the ^{Single} ~~Triple~~ ~~Quadruple~~ Screw vessel "AHELBEACH" M/V

Gross Tons 7533
Net Tons 4156

Built at HEBBURN ON TYNE By whom built R & W HAWTHORN LESLIE & CO. LD. Yard No. 700 When built 1950

Engines made at NEWCASTLE ON TYNE By whom made R & W HAWTHORN LESLIE & CO. LD. Engine No. 4062 When made 1950

Donkey Boilers made at WALLSEND ON TYNE By whom made NORTH EASTERN MARINE ENG CO. (1938) LD. Boiler No. 3195 When made 1950

Brake Horse Power 4450 Owners ATHEL LINE LD. Port belonging to LIVERPOOL

M.N. Power as per Rule 902 ✓ NHP = 860 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted YES

Trade for which vessel is intended OPEN SEA SERVICE.

ENGINES, &c. - Type of Engines HAWTHORN-DOXFORD OPPOSED PISTON 2 or 4 stroke cycle 2 ✓ Single or double acting SINGLE

Mean pressure in cylinders 640 LBS/□" Diameter of cylinders 670mm Length of stroke 2320mm No. of cylinders FOUR No. of cranks 4 THREE THROW

Indicated Pressure 89 LBS/□" Ahead Firing Order in Cylinders 1.3.4.2 Span of bearings, adjacent to the crank, measured BETWEEN EACH 3 THROW

Inner edge to inner edge 2020mm Is there a bearing between each crank 3 THROWN Revolutions per minute 112 ✓

Wheel dia. 2493mm Weight 1.15 TNS Moment of inertia of flywheel (lbs. in² or Kg. cm²) 0.49 Means of ignition COMPRESS Kind of fuel used HEAVY OIL

Crank pin dia. 500mm Crank webs Mid. length breadth 710mm Thickness parallel to axis 285mm

Wheel Shaft, diameter 18" Intermediate Shafts, diameter 22 3/8" Thrust Shaft, diameter at collars 500mm

Screw Shaft, diameter NONE Is the (tube) shaft fitted with a continuous liner YES ✓

Liner thickness in way of bushes 1" Thickness between bushes 27/32" Is the after end of the liner made watertight in the

celler boss YES ✓ If the liner is in more than one length are the junctions made by fusion through the whole thickness of the liner IN ONE LENGTH

Does 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-

compressive - 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 - If so, state type - Length of bearing in Stern Bush next to and supporting propeller 7'-2"

Propeller, dia. 17'-0" Pitch 12-84 FT. TO 10-34 FT. No. of blades 4 Material M. BRONZE whether moveable NO Total developed surface 100 sq. feet

Moment of inertia of propeller 4.85 ✓ (INCLUDING 25%) DOXFORD-BIBBY DETUNER (FOR PARTICULARS) (SEE OVERLEAF)

Method of reversing Engines COMPRESS AIR Is a governor or other arrangement fitted to prevent racing of the engine when declutched YES Means of

ignition FORCED Thickness of cylinder liners 25mm Are the cylinders fitted with safety valves YES Are the exhaust pipes and silencers water cooled

and 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

to the engine - Cooling Water Pumps, No. 1 - ME DRIVEN FW (1 ME SW and 1 Ind) Is the sea suction provided with an efficient strainer which can be cleared within the vessel YES

Bilge Pumps worked from the Main Engines, No. NONE Diameter - Stroke - Can one be overhauled while the other is at work -

Pumps connected to the Main Bilge Line No. and size BALLAST - 250 TNS/HR : BILGE & G.S. - 150 TNS/HR : BILGE & SNTY - 50/70 TNS/HR

How driven STEAM : STEAM : ELECTRIC MOTOR

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 - Last Pumps, No. and size ONE - 250 TNS/HR Power Driven Lubricating Oil Pumps, including spare pump, No. and size ME DRIVEN - 53 TNS/HR ST. BY - 45 TNS/HR

Are two independent means arranged for circulating water through the Oil Cooler YES ✓ Suctions, connected to both main bilge pumps and auxiliary

oil pumps, No. and size: - In machinery spaces 3 1/2" P&S : 3 1/2" TUNNEL WELL : 2" P&S IN MOLASSES PUMP RECESS In pump room 3" E.R. COFFERDAM FWD. PUMP ROOM - 2"

holds, &c. AFT. COFFERDAM 4" : FWD COFFERDAM - 4" : FORE HOLD - 3" P&S : FWD STORE - 2" P&S :

Independent Power Pump Direct Suctions to the engine room bilges, No. and size 6" BALLAST P. : 4" BILGE & SNTY STP : 3 1/2" BILGE & G.S. TUNNEL WELL

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 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 BELOW ✓

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 ✓

Do all pipes pass through the bunkers NONE ✓ How are they protected -

Do all 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 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. NONE ✓ No. of stages - diameters - stroke - driven by -

Auxiliary Air Compressors, No. TWO ✓ No. of stages THREE diameters 8 1/2" 5 1/2" 3" stroke 8" driven by STEAM ENGINE

Small Auxiliary Air Compressors, No. NONE ✓ No. of stages - diameters - stroke - driven by -

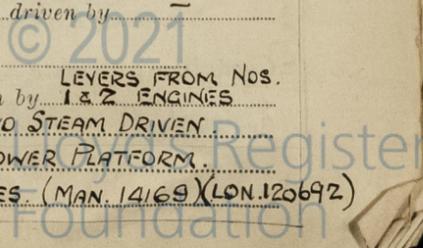
What provision is made for first charging the air receivers DONKEY BLS AND STEAM DRIVEN COMPRESSORS LEVERS FROM NOS. 1 & 2 ENGINES

Scavenging Air Pumps, No. TWO ✓ diameter 1700mm stroke 548mm driven by ONE DIESEL DRIVEN : TWO STEAM DRIVEN

Auxiliary Engines crank shafts, diameter APPROVED No. ONE DIESEL DRIVEN : TWO STEAM DRIVEN Position STAB P. FWD. E.R. LOWER PLATFORM

Have the auxiliary engines been constructed under special survey YES ✓ Is a report sent herewith YES (MAN. 14169) (LON. 120692)

See 5/10/50



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... FUSIBLE PLUGS

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 —

Starting Air Receivers, No. Two Total cubic capacity 300 cu. ft. Internal diameter 4'-6" thickness 1 3/8"

Seamless, welded or riveted longitudinal joint **ELECT. WELD^D** Material **MILD STEEL** Range of tensile strength **SHELL 28/32 TNS/D"** Working pressure **ENDS 26/30 TNS/D"** by Rules —

IS A DONKEY BOILER FITTED YES If so, is a report now forwarded **YES (NWC 107316)**

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 fuel tanks... YES

Donkey boilers... General pumping arrangements... **(INTER) SEE SHIP REPORT FOR ENDS** Pumping arrangements in machinery space... YES

Oil fuel burning arrangements... YES

Have Torsional Vibration characteristics been approved... YES... Date of approval **16.8.49**

SPARE GEAR.

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

State the principal additional spare gear supplied... **AS PER ATTACHED LISTS.**

DOXFORD BIBBY DETUNER FITTED. { FIXED MEMBER WK² = 4.5 TNS. FT.².
FLOATING " WK² = 10.0 TNS. FT.².

R & W. HAWTHORN LESLIE & CO. LIMITED

R. B. Johnson

The foregoing is a correct description, and the particulars of the installation as fitted are as approved for the Torsional Vibration Characteristics.

Dates of Survey while building	During progress of work in shops - -	(1949) Oct. 31. (1949) Oct. 28. Nov. 17. 18. 30. Dec. 8. 14. 21. 23. (1950) Jan. 11. 31. Feb. 3. 10. 20. 24. Mar. 2. 8. 10
	During erection on board vessel - - -	31. April. 3. 5. 14. 18. 24. 26. 28. May. 1. 2. 4. 8. 10. 12. 16. 18. 20. 24. 26. 31. June. 2. 7. 9. 12. 13. 15. 19. 20. 21. 22. 23. 27. 28. 29. July. 3. 5. 7. 11. 12. 13. 14. 24. 26. 28. Aug. 4. 8. 10. 14. 15. 16. 17. 21. 22. 23. 24. 25. 28. 29. 30.
	Total No. of visits	<i>Eighty</i>
Dates of examination of principal parts	Cylinders	17. 11. 49 ETC. Covers - - - Pistons 26. 4. 50 ETC. Rods 26. 4. 50 ETC. Connecting rods 24. 4. 50 ETC.
Crank shaft	3. 2. 50 ETC. 8. 5. 50	Flywheel shaft 14. 4. 50 Thrust shaft IN CRANKSHAFT. Intermediate shafts 14. 4. 50 Tube shaft - - -
Screw shaft	3. 4. 50 / 12. 5. 50	Propeller 12. 5. 50 / 24. 5. 50 Stern tube 4. 5. 50 / 10. 5. 50 Engine seatings - - - Engine holding down bolts 20. 7. 50
Completion of fitting sea connections	31. 5. 50	Completion of pumping arrangements 28. 8. 50 Engines tried under working conditions 29. 30. 8. 50
Crank shaft, material	F.O.H.I.S.	Identification mark LLOYDS No. 21392 A.B. 1. 5. 50 Flywheel shaft, material, F.O.H.I.S. Identification mark 11514. LLS No. 807
Thrust shaft, material	F.O.H.I.S.	Identification mark IN CRANKSHAFT. Intermediate shafts, material F.O.H.I.S. Identification marks 11513 LLS No. 807
Tube shaft, material	- - -	Identification mark - - - Screw shaft, material F.O.H.I.S. Identification mark 11511. LLS No. 8004
Identification marks on air receivers	" LLOYDS TEST: TP. 950 LBS. WP. 600 LBS. 10. 3. 50. A.B. "	

Welded receivers, state Makers' Name... **R & W. HAWTHORN LESLIE & CO. LD. NEWCASTLE. ON. TYNE.**

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

Description of fire extinguishing apparatus fitted... **STEAM SMOTHERING IN BLR. FLAT: 2-10 GAL. & 18-2 GAL. PHOMENE EXTINGUISHERS**

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... NOT DESIRED

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.)

The machinery of this vessel has been constructed and installed under Special Survey in accordance with the Approved Plans, the Society's Rules, and Secreta letters. The material and workmanship are good. The machinery & Donkey Boilers, Steering Gear & Windlass have been examined under full working conditions both alongside quay and at sea with satisfactory results and is in my opinion eligible for classification with the records of + LMC. 8.50: TS. CL: 2 DB. 180 LBS/D": MACHINERY AFT: OIL ENGINE:

The amount of Entry Fee ...	£ 255 . 8 . 0	When applied for	25 SEP 1950
Special (66 TNS)	£ 17 . 15 . 0	When received	19
Donkey Boiler Fee	£ 8 . 0 . 0		
2 AIR VESSELS			
Travelling Expenses (if any) £			

Abulker
Engineer Surveyor to Lloyd's Register of Shipping.



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.)

Committee's Minute... **FRI, 13 OCT 1950**

Assigned... **+ LMC 8.50. Oil Eng. 2DB 180 lb. C.L.**