

REPORT ON OIL ENGINE MACHINERY.

No. 100736

Received at London Office 28 SEP 1942

Date of writing Report 19 When handed in at Local Office 9.9.1942 Port of NEWCASTLE-ON-TYNE

No. in Survey held at Newcastle Date, First Survey 1-7-41. Last Survey 1.9-1942. Number of Visits 77

Reg. Book. Single on the ~~Double~~ Triple Screw vessel M.V. "NUCULANA" Tons { Gross 8179 Net 4767

Built at Newcastle (Hebburn) By whom built R.W. Hawthorn, Leslie & Co. Ltd. Yard No. 649 When built 1942-
Engines made at Newcastle (St Peter's) By whom made ditto Engine No. 3977 When made 1942
Donkey Boilers made at ditto By whom made ditto Boiler No. 3977 When made 1942
Brake Horse Power 3,500. Owners Anglo-Saxon Petroleum Co. Ltd. Port belonging to London
Nom. Horse Power as per Rule 502 Is Refrigerating Machinery fitted for cargo purposes No. Is Electric Light fitted Yes
Trade for which vessel is intended Ocean going. Carrying Petroleum in bulk.

OIL ENGINES, &c. Type of Engines Hawthorn-Werkepoor Supercharged 4 stroke cycle 4, Single or double acting Single
Maximum pressure in cylinders 700 lb/sq. in. Diameter of cylinders 25 1/2" Length of stroke 1400 mm No. of cylinders 8. No. of cranks 8.
Mean Indicated Pressure 135 lb/sq. in.
Span of bearings, adjacent to the Crank, measured from inner edge to inner edge 844 mm Is there a bearing between each crank Yes
Revolutions per minute 120 Flywheel dia. 2260 mm Weight 6,000 Kg. Means of ignition Heat of Compression Kind of fuel used Heavy oil
Crank Shaft, { Solid forged dia. of journals as per Rule 448 mm Crank pin dia. 460 mm Crank Webs Mid. length breadth 870 mm Thickness parallel to axis 267 + 290 mm
{ Semi built as fitted 460 mm Mid. length thickness 267 mm Thickness around eyehole 204 mm
{ All built as per Rule 448 mm Intermediate Shafts, diameter as per Rule 325 mm Thrust Shaft, diameter at collars as per Rule 341 mm
Flywheel Shaft, diameter as fitted 460 mm as fitted 470 mm at Bearings 575 mm bet. Brgs. as fitted 460 mm
Tube Shaft, diameter as per Rule none. Screw Shaft, diameter as per Rule 358 mm Is the { tube } shaft fitted with a continuous liner { Yes
as fitted 400 mm { screw }
Bronze Liners, thickness in way of bushes as per Rule 18.55 mm Thickness between bushes as per Rule 13.9 mm Is the after end of the liner made watertight in the
as fitted 20 mm as fitted 15 mm
propeller 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
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 a tight fit
If two liners are fitted, is the shaft lapped or protected between the liners Yes Is an approved Oil Gland or other appliance fitted at the after end of the tube
shaft No If so, state type mang. Length of Bearing in Stern Bush next to and supporting propeller 1585 mm
Propeller, dia. 15'-0" Pitch 12'-0" No. of blades 4 Material Bronze whether Moveable No Total Developed Surface 72 sq. feet
Method of reversing Engines Air Servo-motor Is a governor or other arrangement fitted to prevent racing of the engine when detached Yes Means of lubrication
Forced Thickness of cylinder liners 55 mm Are the cylinders fitted with safety valves Yes Are the exhaust pipes and silencers water cooled or 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 back to the engine of Funnel
Cooling Water Pumps, No. 2 for ME JACKET & PISTONS: - F.W. COOLING. Is the sed suction provided with an efficient strainer which can be cleared within the vessel YES, ON THE S.W. TO COOLERS.
Bilge Pumps worked from the Main Engines, No. 2. Diameter Rotary type Stroke Can one be overhauled while the other is at work Yes
Pumps connected to the Main Bilge Line { No. and Size Three in all, viz. Two Rotary each 35 tons/hr and one Gen. Service Pump 12' x 8 1/2' x 12' duplex (120 tons/hr)
{ How driven by main engine by Independent Steam.
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 One 12' x 8 1/2' x 12' duplex Gen. Serv. Pump Power Driven Lubricating Oil Pumps, including Spare Pump, No. and size one Rotary (40 tons/hr) on M. engine
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 3 of 3 1/2" dia. + 2 of 2 1/2" in Cofferdam of D.B.M. In Pump Room 1 of 3" in each
In Holds, &c. In Forward Hold 2 of 2" In Forward Store 2 of 2" In F.A. Cofferdams, one of 4" in each.
Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size one of 5" on S.W. Pump on Port side and one of 7" on S.W. Cooling Pump on Starboard
Are all the Bilge Suction pipes in Hold and Tunnel Well fitted with strum-boxes Yes 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 Yes
Are all Sea Connections fitted direct on the skin of the ship Yes Are they fitted with Valves or Cocks with 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 above
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
What pipes pass through the bunkers 4" bore bilge suction from aft Cofferdam How are they protected none necessary.
What pipes pass through the deep tanks none Have they been tested as per Rule Yes
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 No Funnel (machinery aft) Is it fitted with a watertight door worked from Yes
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 2 Diameters each 120 cub. ft. of free air Stroke one Driven by Oil Engine
Auxiliary Air Compressors, No. Two No. of stages 2 Diameters at 350 lb/sq. in. Stroke one Driven by Steam Eng.
Small Auxiliary Air Compressors, No. none No. of stages 2 Diameters Stroke one Driven by
What provision is made for first Charging the Air Receivers By Steam driven Air Compressor.
Scavenging Air Pumps, No. none Diameter Stroke No. One - 2 Cyl. Oil Eng/Air Compr/Generator Set Driven by 40 BHP Engine
Auxiliary Engines crank shafts, diameter as per Rule oil as fitted on Starboard in Eng. Room Position Is a report sent herewith See Nottingham City C. 763
Have the Auxiliary Engines been constructed under special survey Yes. Is a report sent herewith See Nottingham City C. 763
Certs P.T.O.

Rpt. 5

Date of report

No. in Reg. Book

Master

Engines

Boilers

Nominal

MULT

Manufact

Total He

No. and

Tested by

Area of

Area of

In case of

Smallest

Smallest

Largest

Thickness

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Percentage

Percentage

Thickness

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Length of

Dimension

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Thickness

Pitch of s

Working

Diameter {

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Diameter {

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Dates of Survey while building	{	During progress of work in shops--	1941. July. 1. Sept. 24. Oct. 3. 11. 28. Nov. 5. 14. 17. 20. Dec. 4. 9. 11. 12. 17. 18. 23. 26. 30. 1942. Jan. 6. 8. 9. 13. 17. 22. 26
		During erection on board vessel--	28. 31. Feb. 3. 5. 9. 11. 13. 18. 20. 25. 27. Mar. 5. 9. 11. 16. 17. 20. 23. 31. Apr. 4. 9. 16. 17. 20. 22. 24. 29. May. 6. 16. 27. 28.
		Total No. of visits	June. 1. 2. 3. 5. 11. 19. 23. 24. July. 1. 14. 20. 26. Aug. 4. 7. 10 ² . 13. 14. 17. 21. Sep. 1.

LLOYD'S TEST
550 LBS
WP 350 LBS
AW 17/3/42 (AW)

NEWCASTLE-ON-TYNE.

The machinery has been efficiently installed on board the vessel, tested under working conditions with satisfactory results and is shigible, in my opinion, for record + LMC 9.42, and the notations DB. WP/30th. cl. Ord Eng. machy aft

R. Watt

FRI 2 OCT 1942

+ Am. 6. 9. 42
 Dr. - 180 lb
 oil 1/2, Ch.