Rpt. 4.

No. 51220.

REPORT ON STEAM RECIPROCATING ENGINE MACHINERY.

Received at London Office 10 JUN 1941

Date of writing Report 6.6. 19 When handed in at Local Office 15 MAY 1941 19 Port of HULL

No. in Reg. Book. Survey held at Hull Date, First Survey 25. 10. 40. Last Surve 30. 4. 1941.

on the H.M.T. "ARRAN" (Number of Visits 46)

Built at Beverley By whom built Cook, Welton & Gemmell Ltd Yard No. 671 When built 1941-5

Engines made at Hull By whom made Chas. D. Holmes & Co Ltd Engine No. 1584 When made 1941-5

Boilers made at Hull By whom made Chas. D. Holmes & Co Ltd Boiler No. 1584 When made 1941-5

Registered Horse Power / Owners The Admiralty Port belonging to /

Nom. Horse Power as per Rule 156 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes.

Trade for which Vessel is intended /

Tons { Gross / Net

ENGINES, &c.—Description of Engines Triple expansion Contract Revs. per minute 160

Dia. of Cylinders 13½ - 23 - 38 Length of Stroke 27 No. of Cylinders 3 No. of Cranks 3.

Crank shaft, dia. of journals as per Rule 7.5 as fitted 7 7/8 Crank pin dia. 7 7/8 Crank webs Mid. length breadth / Mid. length thickness / shrunk Thickness parallel to axis 4 13/16 Thickness around eye-hole 3 15/16

Intermediate Shafts, diameter as per Rule 7.15" as fitted 7¼" **Thrust shaft,** diameter at collars as per Rule 7.5" as fitted 7 7/8" /

Tube Shafts, diameter as per Rule / as fitted / **Screw Shaft,** diameter as per Rule 8.2 as fitted 8¼ Is the { tube / screw } shaft fitted with a continuous liner { No

Bronze Liners, thickness in way of bushes as per Rule / as fitted / Thickness between bushes as per Rule / as fitted / Is the after end of the liner made watertight in the 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 at Yes If so, state type Newark Length of Bearing in **Stern Bush** next to and supporting propeller 36½"

Propeller, dia. 105" Pitch 9'-4" No. of Blades 3 Material C.I. whether Moveable No Total Developed Surface 30 sq. feet

Feed Pumps worked from the **Main Engines,** No. 2 Diameter 2½ Stroke 15 Can one be overhauled while the other is at work Yes

Bilge Pumps worked from the **Main Engines,** No. 2 Diameter 2½ Stroke 15 Can one be overhauled while the other is at work Yes.

Feed Pumps { No. and size One - 4+6+12 Weirs / How driven Independant steam } **Pumps** connected to the **Main Bilge Line** { No. and size One - 6×5½×15 Weirs } Also / How driven Independant steam } Downton

Ballast Pumps, No. and size None **Lubricating Oil Pumps,** including Spare Pump, No. and size None

Are two independent means arranged for circulating water through the **Oil Cooler** None **Suctions** connected to both Main Bilge Pumps and Auxiliary Bilge Pumps;—In Engine and Boiler Room Engine room 2 ø 2" dia + one ø 3½" dia. Stokehold 2 ø 2" dia.

In Pump Room None. In Holds, &c. One ø 2" dia in each of the following - Forepeak, Main locker, Asdic space, Magazine, Spirit room, Bunker, Shaft space, aft peak.

Main Water Circulating Pump Direct Bilge Suctions, No. and size One - 5" **Independent Power Pump Direct Suctions** to the Engine Room Bilges, No. and size One ø 3½" included above Are all the Bilge Suction Pipes in holds and tunnel well fitted with strum-boxes Yes

Are the Bilge Suctions in the Machinery Space 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 Yes

Are they fixed sufficiently high on the ship's side to be seen without lifting the stokehold plates Yes Are the Overboard Discharges above or below the deep water line At W.L.

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 No

What Pipes pass through the bunkers Feed tank suctions How are they protected Wood casing

What 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 Yes Is it fitted with a watertight door No worked from Access from flat above

MAIN BOILERS, &c.—(Letter for record S) Total Heating Surface of Boilers 2650 sq ft

Which Boilers are fitted with Forced Draft All Which Boilers are fitted with Superheaters None

No. and Description of Boilers One S.E. Working Pressure 200 lbs □"

IS A REPORT ON MAIN BOILERS NOW FORWARDED? Yes

IS A DONKEY BOILER FITTED? No If so, is a report now forwarded? /

Can the donkey boiler be used for domestic purposes only "

PLANS. Are approved plans forwarded herewith for Shafting (If not state date of approval) 17.7.39 Main Boilers 17.7.39 Auxiliary Boilers None Donkey Boilers None

Superheaters None General Pumping Arrangements Oil fuel Burning Piping Arrangements None

SPARE GEAR.

Has the spare gear required by the Rules been supplied Yes

State the principal additional spare gear supplied See attached list.

The foregoing is a correct description.

FOR CHARLES D. HOLMES & CO., LTD.

A. Cooper

Manufacturer.

NOTE.—The words which do not apply should be deleted. If a Report also sent on the Hull of the Ship [illegible]

5c.2.41. T. (MADE IN ENGLAND.)

Dates of Survey while building — During progress of work in shops; During erection on board vessel	1940. Oct. 24. 28. 25. 31. Nov. 8. 11. 14. 15. 23. 28. Dec. 6. 16. 17. 27. 30. 1941. Jan 1. 2. 3. 8. 10. 13. 15. 18. 22. 25. 28. 30. Feb. 19. 24. Mar. 7. 13. 14. 22. 26. 28. Apr. 2. 7. 10. 11. 19. 21. 24. 25. 28. 29. 30.
Total No. of visits	46.

Dates of Examination of principal parts—Cylinders 27/12/40. 6/12/40. 28/11/40. Slides 28-11-40 Covers 27/12/40 6/12/40. 28/11/40.

Pistons 28-11-40 Piston Rods 8-1-41. Connecting rods 8-1-41.

Crank shaft 27-12-40. Thrust shaft 23-11-40. Intermediate shafts 6-12-40.

Tube shaft — Screw shaft 24-10-40. Propeller 8-11-40.

Stern tube 28-10-40. Engine and boiler seatings 25-10-40 Engines holding down bolts 22-3-41

Completion of fitting sea connections 25-10-40

Completion of pumping arrangements 21-4-41 Boilers fixed 22-3-41 Engines tried under steam 24-4-41

Main boiler safety valves adjusted 11-4-41 Thickness of adjusting washers Both 3/8"

Crank shaft material M.S. Identification Mark Coupling 3959 AEG. 15/10/40. Journal 3940. AEG. 15/10/40. Pin 4321 AEG 18/11/40. 4019. A.E.G. 16-11-40. Thrust shaft material M.S. Identification Mark 3944 AEG. 15-10-40.

Intermediate shafts, material M.S. Identification Marks 3942 do. 15/10/40. Tube shaft, material — Identification Mark —

Screw shaft, material M.S. Identification Mark 470. E.H. 10-10-40 Steam Pipes, material Steel Test pressure 600 lbs Date of Test 7-4-41.

Is an installation fitted for burning oil fuel no Is the flash point of the oil to be used over 150°F. ✓

Have the requirements of the Rules for the use of oil as fuel been complied with ✓

Is the vessel (not being an oil tanker) fitted for carrying oil as cargo no 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 H.M.T. "BIRCH" Hull rept 50672.

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

The machinery of this vessel has been constructed and fitted on board in accordance with the approved Admiralty plans, the specification and the Society's Rules. The workmanship and materials are good and when tried at as near full power as practicable in the River Humber it was found satisfactory in every respect.

The vessel is eligible, in our opinion, when classed to have the records of + LMC. 5-41. and O.G. and the notations T. 3cy. 13½, 23 & 38 156 NHP. 200 lb 1. SB. 3 cf. G.S. 63. H.S. 2650 F.D.

The amount of Entry Fee ...	£	:
Special ...	£	75 : 0
Donkey Boiler Fee ...	£	:
Travelling Expenses (if any)	£	:

When applied for, 15 MAY 1941
When received, 31-5-41 19 JWB

J. Stevens Digby H. Holmes
Engineer Surveyors to Lloyd's Register of Shipping.

Certificate 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 JUN 1941

Assigned + LMC 4.41
FD OG.