

REPORT ON STEAM RECIPROCATING ENGINE MACHINERY.

Received at London Office

21 SEP 1944

Date of writing Report 26-8-1944 When handed in at Local Office 26-8-1944 Port of NEWCASTLE-ON-TYNE

No. in Survey held at 1943 Date, First Survey 1943 15th Dec. Last Survey Aug. 21st 1944

Reg. Book on the H.M.S. HEVER CASTLE renamed "COPPER CLIFF" (Castle Class Single Screw S.S. 14784. Tons {Gross 1267 Net 616})

Built at Blyth By whom built Blyth DDK & SA Co Ltd Yard No. 296. When built 1944.

Engines made at Glasgow By whom made Barclay Curle & Co Ltd Engine No. E.W. 150 When made 1943.

Boilers made at Derby By whom made International Combustion Ltd Boiler No. 340/87/5.6. When made 1943.

Registered Horse Power 2750 Owners Admiralty Port belonging to —

Nom. Horse Power as per Rule 370 374 Is Refrigerating Machinery fitted for cargo purposes No. Is Electric Light fitted Yes.

Trade for which vessel is intended Admiralty service

Engines, &c.—Description of Engines 4 Crank—Triple Expansion (See B.C. Certificate attached) Revs. per minute 185

Dia. of Cylinders 18 1/2 x 31 x 38 1/2 x 38 1/2 Length of Stroke 30 No. of Cylinders 4 No. of Cranks 4

Crank shaft, dia. of journals as per Rule 10.039. Crank pin dia. — Crank webs Mid. length breadth — Thickness parallel to axis —

Intermediate Shafts, diameter as fitted 10.5 Thrust shaft, diameter at collars as fitted 10.5

Tube Shafts, diameter as fitted — Screw Shaft, diameter as fitted 10 1/8 Is the shaft fitted with a continuous liner Yes.

Bronze Liners, thickness in way of bushes as per Rule 19 6/32 .615 Thickness between bushes as fitted 5/8 Is the after end of the liner made watertight in the 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 —

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 No.

Propeller, dia. 10-3 Pitch 10-7 No. of Blades 3 Material Bronze Length of Bearing in Stern Bush next to and supporting propeller 5-0

Feed Pumps worked from the Main Engines, No. none Diameter — Stroke — Can one be overhauled while the other is at work —

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

Feed Pumps {No. and size (3) 1 Main 8 x 10 x 22, 2 Aux 6 x 8 1/2 x 18 Pumps connected to the Main Bilge Line {No. and size 2 - 8 x 7 x 15 1/2 2 - 20 Tm

How driven Steam Steam How driven Steam Steam

Ballast Pumps, No. and size none Lubricating Oil Pumps, including Spare Pump, No. and size —

Are two independent means arranged for circulating water through the Oil Cooler — Suctions, connected to both Main Bilge Pumps and Auxiliary Bilge Pumps:—In Engine and Boiler Room 1-3", 1-4.5", 1-4.5", 1-4.5", 2-3", 1-2 1/2 (Qty 4 each) 1-2 1/2 H. Conn in each Bk Room and also 1-4.5" 3/4 in Forward Bk Rm.

In Pump Room — In Holds, &c. See attached list.

Main Water Circulating Pump Direct Bilge Suctions, No. and size 1-9" Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size 1-3 1/2

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.

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 stokehold 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.

What Pipes pass through the bunkers none.

How are they protected —

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 No Tunnel Is it fitted with a watertight door — worked from —

MAIN BOILERS, &c.—(Letter for record) Total Heating Surface of Boilers 6300 Sq feet.

Which Boilers are fitted with Forced Draft Both.

Which Boilers are fitted with Superheaters —

No. and Description of Boilers 2 - W.T. Working Pressure 225 Lb.

IS A REPORT ON MAIN BOILERS NOW FORWARDED? Yes. See Nottingham Report No 60

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 Yes. Main Boilers — Auxiliary Boilers — Donkey Boilers —

(If not state date of approval)

Superheaters — General Pumping Arrangements 4 Riser Yes. Oil fuel Burning Piping Arrangements Yes.

SPARE GEAR.

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

State the principal additional spare gear supplied To Admiralty Specification.

The foregoing is a correct description.

Manufacturer.



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of Shipping.

Lloyd's Register Foundation

20850

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

(1943) Dec. 15 (1944) Feb. 18, 22, 24 Apr. 12, 13, 14, 21 May 3, 4, 12, 16, June 9, 12, 27, 28 July 2, 4, 5, 11, 20, 24, 25, 26, 27 Aug. 5, 8, 10, 11, 14, 15, 16, 18, 21

34

Dates of Examination of principal parts
Cylinders ✓ Slides ✓ Covers ✓
Pistons ✓ Piston Rods ✓
Crank shaft ✓ Thrust shaft ✓
Tube shaft ✓ Screw shaft ✓
Stern tube 18/2/44 Engine and boiler seatings 4-5-44
Completion of fitting sea connections 22/2/44
Completion of pumping arrangements 24/7/44 Boilers fired 12/5/44 Engines tried under steam 20/7/44, 11/8/44
Main boiler safety valves adjusted 24/7/44 Thickness of adjusting washers No. 1 RH 9/32 LH 5/16 No. 2 LH 1/8 RH 3/16
Crank shaft material Ingot steel Identification Mark BC 890 EF 2-11-43 Thrust shaft material Ingot steel Identification Mark 20-10-43
Intermediate shafts, material Ingot steel Identification Marks 221211 20332 T P 25 Tube shaft, material — Identification Mark 1703 CP
Screw shaft, material steel Identification Mark 3125 11-11-43 Steam Pipes, material S. D. Steel Test pressure 675 lb. Date of Test 14-12-43

Is an installation fitted for burning oil fuel 410.
Is the flash point of the oil to be used over 150° F. 410.
Have the requirements of the Rules for the use of oil as fuel been complied with 410.
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 410. If so, state name of vessel Castle Class Tugalis/Manusborough Castle J. 4776
General Remarks (State quality of workmanship, opinions as to class, &c.) Limestone Castle J. 4780

The machinery of this vessel has been constructed under British Corporation Register survey and Rule Requirements and in accordance with Admiralty approved specification. The materials and workmanship are good.
This machinery has now been satisfactorily fitted on board and tested under steam under working conditions with the vessel moored at wharf and again at sea for 4 hours full power trial with satisfactory results.
The terms of the Admiralty Specification were supervised. The electrical equipment was fitted under Admiralty supervision.
The Machinery of this vessel is now, in my opinion, eligible to have record of L.M.C. + * S. 444 and notation 2.W.T. Rules 225 Mr. Fitted for bit fuel, F.P. above 150°F. S. 444 and T.B. C.L.
The Intermediate Shafting was made under Admiralty supervision.

The amount of Entry Fee
When applied for, 17 : 10 :
When received, 19 :
Total length (if continuous) £ : :
Order for Special Survey No. LMC + * S. 444
Date 11. 6. 44 20. CL

FRI 8 SEP 1944

ADMIRALTY

A/c rendered from
London 12. 9. 44

Engineer Surveyor to Lloyd's Register of Shipping.

Rpt. 9a.

Port of NEWCASTLE-ON-TYNE Continuation of Report No. 102305 dated 21st August 1944 on the

H.M.S. "HEVER CASTLE" now renamed.

"COPPER CLIFF"

J. 4784

Sections connected to Main & Aux Bilge Pumps & holds etc

Sea Peak Ballast Tank	3"	Frames	4-5
Chain Locker	3"	"	8-9
" Compartment	3"	"	11-12
A/S Compartment	3"	"	19-20
Lower Deck	2 1/2" incl 4x connection		19-20
4" Magazine Keelsons	2 1/2" incl 4. Conn.		29-30
Rising Machinery Space	3"	Frames	34-35
Squad Proj. Room	3"	"	40-41
Portable	2 1/2" 4 Conn.		42-43
Spirit Room	3"	Frame	95-96
Engineers Store	3"	"	"
Glass Comp.	3"	"	96-97
Ballast Tank	3"	"	105-106
Steering gear Space	3"	"	108-109