

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 Blyth 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) 14784. Tons (Gross 1267 Net 616)

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

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

Boilers made at Derby By whom made International Combustion Ltd Boiler No. 340/87/576. When made 1943.

Registered Horse Power 2750 Owners Admiralty Port belonging to -

Nom. Horse Power as per Rule 270 374 Is Refrigerating Machinery fitted for cargo purposes No. Is Electric Light fitted Yes.

Trade for which vessel is intended Admiralty services

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 per Rule 10.039. as fitted 10.5"

Tube Shafts, diameter as fitted - Screw Shaft, diameter as per Rule 10.4. as fitted 10 1/8 Is the screw 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 per Rule 14 7/32 .46 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 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" whether Moveable No Total Developed Surface 30 sq. feet

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) Main 8x10x22, 2 Aux 6x8 1/2 x 18 Pumps connected to the Main Bilge Line No. and size 2 - 8 1/2 x 7 x 15 1/2 2 - 20 Tr How driven Steam Steam How driven Steam Helios

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 4 In - 1-3", 1-H. Conn. 3 1/2", 1-H. Conn. 2 1/2", 2 In - 2-3", 1-2 1/2 (Qty 4 each) 1-2 1/2 H. Conn. in each Bk. Room and also 1-H. Conn. 3 1/2 in Forward Bk. Room 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 -

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.



NOTE—The words which do not apply should be deleted.

00827-00332-0038 1/2

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. H. connection		19-20
4" Magazine Keelsons	2 1/2" incl. H. conn.		29-30
Rigging Machinery Space	3"	Frames	34-35
Squad Proj. Room	3"	"	40-41
Portable	2 1/2" H. conn.		42-43
Spirit Room	3"	Frame	95-96
Inspection Stair	3"	"	"
Claua Comp.	3"	"	96-97
Ballast Tank	3"	"	105-106
Steering gear Space	3"	"	108-109

Dates of Survey while building: During progress of work in shops -- (1943) Dec. 15 (1944) Feb. 18, 22, 24, Apr. 12, 13, 14, 27, May 3, 4, 12, 16, June 9, 12, 27, 28, July 2, 4, 5, 10, 24, 25, 26, 27, Aug. 5, 8, 10, 11, 14, 15, 16, 18, 21

Total No. of visits 34

Dates of Examination of principal parts: Cylinders ✓ Slides ✓ Covers ✓

Pistons ✓ Piston Rods ✓ Connecting rods ✓

Crank shaft ✓ Thrust shaft ✓ Intermediate shafts ✓

Tube shaft ✓ Screw shaft ✓ Propeller 22/2/44, 12/5/44

Stern tube 18/2/44 Engine and boiler seatings 4-5-44 Engines holding down bolts 6-7-44

Completion of fitting sea connections 22/2/44 Boilers fitted 12/5/44 Engines tried under steam 20/7/44, 11/8/44

Completion of pumping arrangements 24/7/44 Main boiler safety valves adjusted 24/7/44

Crank shaft material Ingot steel Identification Mark BC 8910 EF 2-11-43 Thrust shaft material Ingot steel Identification Mark 20-10-43

Intermediate shafts, material Ingot steel Identification Marks 221211, 20333 T P 25 Tube shaft, material S.D. Steel Identification Mark 1703 CP

Screw shaft, material Steel Identification Mark 3125 N.H.F. 16-11-43 Steam Pipes, material S.D. Steel Test pressure 675 lb. Date of Test 14-12-43

Is an installation fitted for burning oil fuel 40. Is the flash point of the oil to be used over 150° F. 40.

Have the requirements of the Rules for the use of oil as fuel been complied with 40.

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 40. If so, state name of vessel Castle Class Frigate (Manchester) L 4776, Lancaster Castle J 4780

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

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.S. C.L.

* The Intermediate Shafting was made under Admiralty supervision.

To be sent to Admiralty with or below the copy for Committee's Minutes

The amount of Entry Fee ... £ 17 : 10

When applied for, 28 AUG 1944

When received, 19

John Smalley
Engineer Surveyor to Lloyd's Register of Shipping.

FRI 8 SEP 1944

Order for Special Survey No. LMC + * S. 444

Date 11. 6. 44

