

REPORT ON STEAM TURBINE MACHINERY.

No. 111306

SEP - 7 1938

Date of writing Report

19

When handed in at Local Office

Port of

LIVERPOOL

No. in Survey held at
Reg. Book.

Birkenhead

Date, First Survey

21/5/37

Last Survey

25/8/1938

(Number of Visits 231)

on the

Twin S/S City of Edinburgh

Tons

Gross

Net

Built at

Birkenhead

By whom built

Cammell Laird & Co. Ltd.

Yard No.

1032

When built

1938

Engines made at

Birkenhead

By whom made

Cammell Laird & Co. Ltd.

Engine No.

1032

When made

1938

Boilers made at

Birkenhead

By whom made

Cammell Laird & Co. Ltd.

Boiler No.

1032

When made

1938

Shaft Horse Power at Full Power

9750

Owners

Ellerman Lines Ltd

Port belonging to

Liverpool

Nom. Horse Power as per Rule

1867

Is Refrigerating Machinery fitted for cargo purposes

No

Is Electric Light fitted

Yes

Trade for which Vessel is intended

TEAM TURBINE ENGINES, &c.—Description of Engines.

Single Reduction - geared turbines

No. of Turbines Ahead 6 Direct coupled, single reduction geared to 2 propelling shafts. No. of primary pinions to each set of reduction gearing 3

Direct coupled to Alternating Current Generator phase periods per second rated Kilowatts Volts at revolutions per minute;

supplying power for driving Propelling Motors, Type

Direct coupled, single or double reduction geared to propelling shafts.

TURBINE
LOADING.

ST EXPANSION	158"	1-6 1/2"	11	158"	1-11"	7	3 3/4"	3-2 1/2"	3	2"	2-7"	2
ND	13 1/16"	1-6 7/8"	11	2"	1-11 3/4"	7	4 7/8"	3-4 1/4"	3	2 3/16"	2-8 5/8"	2
RD	2 1/8"	1-7 1/2"	11	2 1/2"	2-0 3/4"	6	5"	3-6"	2	4"	2-11"	2
CH				3 1/16"	2-1 7/8"	6	6"	3-8"	2	4"	2-11"	2
CH				4"	2-3 3/4"	6	6 1/2"	3-9"	1	4"	2-11"	2
CH							7 9/8"	3-11 1/4"	1			
CH							7 9/8"	3-11 1/4"	1			
CH							7 9/8"	3-11 1/4"	1			
CH							7 9/8"	3-11 1/4"	1			
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Shaft Horse Power at each turbine H.P. 1505 I.P. 1590 L.P. 1780

Revolutions per minute, at full power, of each Turbine Shaft H.P. 2721 I.P. 2721 L.P. 2407

Motor Shaft diameter at journals H.P. 6" I.P. 6" L.P. 6 1/2"

Pitch Circle Diameter 1st pinion 41.126 2nd pinion 41.126

Width of Face 1st reduction wheel 33" main wheel 33"

Distance between centres of pinion and wheel faces and the centre of the adjacent bearings 1st pinion 2-2 3/4" 2nd pinion 2-9 7/8"

Exible Pinion Shafts, diameter at bearings 1st 5 1/2" 2nd 1 1/2"

Pinion Shafts, diameter at bearings External 1st 5 1/2" 2nd 1 1/2"

Internal 1st 5 1/2" 2nd 1 1/2"

diameter at bottom of pinion teeth 1st 41.126 2nd 41.126

Wheel Shafts, diameter at bearings 1st 18 1/2" 2nd 13 9/16"

Generator Shaft, diameter at bearings 20 1/16"

Propelling Motor Shaft, diameter at bearings 15 3/5"

Intermediate Shafts, diameter as per rule 13 9/16" as fitted 14 1/4"

Thrust Shaft, diameter at collars as per rule 15 3/5" as fitted 15"

Shaft, diameter as per rule 15 3/5" as fitted 16"

Screw Shaft, diameter as per rule 15 3/5" as fitted 16"

Is the shaft fitted with a continuous liner Yes

Brass Liners, thickness in way of bushes as per rule 25/32" as fitted 27/32"

Thickness between bushes as per rule 9/16" as fitted 23/32"

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 One length

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 light

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

Length of Bearing in Stern Bush next to and supporting propeller 7' 4"

Propeller, diameter 16' 9" Pitch 15' 9" No. of Blades 4 State whether Moveable Yes

Single Screw, are arrangements made so that steam can be led direct to the L.P. Turbine Yes

Can the H.P. or I.P. Turbine exhaust direct to the

Condenser Yes No. of Turbines fitted with astern wheels 4

Feed Pumps No. and size 2 main 17" x 12 1/2" x 24" stroke; 1 aux. 8 1/2" x 6" x 18"

How driven Steam

Pumps connected to the Main Bilge Line No. and size 1 ballast 10 1/2" x 14" x 24" stroke; 2 bilge secondary 7 1/2" x 9" x 15"

How driven Steam

Two oil fuel transfer pumps 7 1/2" x 8" x 18"

Ballast Pumps, No. and size One 10 1/2" x 14" x 24"

Lubricating Oil Pumps, including Spare Pump, No. and size 3 - each 11000 gals per hr.

Are two independent means arranged for circulating water through the Oil Cooler Yes

Suctions, connected to both Main Bilge Pumps and Auxiliary Bilge In Pump Room

Holds, &c. 1st hold 2' 3"; 2nd hold 2' 3"; 3rd hold 2' 3"; 4th hold 2' 2 1/2"; 5th hold 2' 3" x 22"; depth tank 2' 3" x 22" x 2' 3"

Main Water Circulating Pump Direct Bilge Suctions, No. and size 2-15"

Independent Power Pump Direct Suctions to the Engine Room

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 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 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

How are they protected steel plates

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 Yes

Is it fitted with a watertight door Yes

worked from Main engine room

BOILERS, &c.—(Letter for record 5) Total Heating Surface of Boilers 19800 sq ft
Is Forced Draft fitted Yes No. and Description of Boilers 6 Multitubular Cylindrical Working Pressure 265 lbs

Is a Report on Main Boilers now forwarded? Yes
Is a Donkey Boiler fitted? No If so, is a report now forwarded? Yes
Is the donkey boiler intended to be used for domestic purposes only? Yes

Plans. Are approved plans forwarded herewith for Shafting Main Boilers Auxiliary Boilers Donkey Boilers
(If not state date of approval)
Superheaters General Pumping Arrangements Oil Fuel Burning Arrangements

SPARE GEAR.
Has the spare gear required by the Rules been supplied? Yes.
State the principal additional spare gear supplied 4 Propeller blades, one propeller shaft, 9 propeller blade studs and 1 HP-1 LP pinions with claw coupling, one armature etc for lubricating oil pump, one ditto for main circulating pump, 6 Safety valve springs, a number of boiler tubes & many other items in accordance with spare gear list supplied with report in 'City of Cape Town'

The foregoing is a correct description,
FOR AND ON BEHALF OF
SAMPSON LARSEN & CO. LIMITED
Woodson Manufacturers

Dates of Examination of principal parts—Casings
Wheel shaft 7/9/37 Thrust shaft 30/9/37 24/10/37 5/11/37 14/11/37 19/11/37 24/11/37 29/11/37 4/12/37 9/12/37 14/12/37 19/12/37 24/12/37 29/12/37 4/1/38 9/1/38 14/1/38 19/1/38 24/1/38 29/1/38 4/2/38 9/2/38 14/2/38 19/2/38 24/2/38 29/2/38 4/3/38 9/3/38 14/3/38 19/3/38 24/3/38 29/3/38 4/4/38 9/4/38 14/4/38 19/4/38 24/4/38 29/4/38 4/5/38 9/5/38 14/5/38 19/5/38 24/5/38 29/5/38 4/6/38 9/6/38 14/6/38 19/6/38 24/6/38 29/6/38 4/7/38 9/7/38 14/7/38 19/7/38 24/7/38 29/7/38 4/8/38 9/8/38 14/8/38 19/8/38 24/8/38 29/8/38 4/9/38 9/9/38 14/9/38 19/9/38 24/9/38 29/9/38 4/10/38 9/10/38 14/10/38 19/10/38 24/10/38 29/10/38 4/11/38 9/11/38 14/11/38 19/11/38 24/11/38 29/11/38 4/12/38 9/12/38 14/12/38 19/12/38 24/12/38 29/12/38 4/1/39 9/1/39 14/1/39 19/1/39 24/1/39 29/1/39 4/2/39 9/2/39 14/2/39 19/2/39 24/2/39 29/2/39 4/3/39 9/3/39 14/3/39 19/3/39 24/3/39 29/3/39 4/4/39 9/4/39 14/4/39 19/4/39 24/4/39 29/4/39 4/5/39 9/5/39 14/5/39 19/5/39 24/5/39 29/5/39 4/6/39 9/6/39 14/6/39 19/6/39 24/6/39 29/6/39 4/7/39 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