

pt. 4a.

REPORT ON STEAM TURBINE MACHINERY. No. 60845

17.18.21
an. 10.24
pr. 3.11

Date of writing Report 14th March 1939 When handed in at Local Office 18.3.39 Port of Glasgow Received at London Office MAR 22 1939

No. in Survey held at Glasgow Date, First Survey 8.9.38 Last Survey 3rd March 1939

Reg. Book. S/S "ADVISER" (Number of Visits 28) Tons Gross 6348 Net 3886

on the S/S "ADVISER"

Built at Port Glasgow By whom built Lithgow Ltd Yard No. 917 When built 1937

Engines made at Glasgow By whom made Barclay Currie & Co Ltd Engine No. B.W.62 When made 1937

Boilers made at Glasgow By whom made Barclay Currie & Co Ltd Boiler No. 1512 When made 1937

Shaft Horse Power at Full Power 1512 Owners Port Glasgow Port belonging to Port Glasgow

Nom. Horse Power as per Rule 252 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted No

Trade for which Vessel is intended General Cargo

STEAM TURBINE ENGINES, &c.—Description of Engines One L.P. Turbine with Double Reductor Gear & Hydraulic Coupling

No. of Turbines one Ahead one Direct coupled one to one propelling shaft. No. of primary pinions to each set of reduction gearing one

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

for supplying power for driving ✓ Propelling Motors, Type ✓

rated ✓ Kilowatts ✓ Volts at ✓ revolutions per minute. Direct coupled, single or double reduction geared to ✓ propelling shafts.

	H.P.			I.P.			L.P.			ASTERN.		
	HEIGHT OF BLADES.	DIAMETER AT TIP.	NO. OF ROWS.	HEIGHT OF BLADES.	DIAMETER AT TIP.	NO. OF ROWS.	HEIGHT OF BLADES.	DIAMETER AT TIP.	NO. OF ROWS.	HEIGHT OF BLADES.	DIAMETER AT TIP.	NO. OF ROWS.
1ST EXPANSION												
2ND							94 mm	1138 mm	1			
3RD							115 "	1180 "	1			
4TH							136 "	1222 "	1			
5TH							154 "	1264 "	1			
6TH							179 "	1308 "	1			
7TH							204 "	1364 "	1			
8TH							235 "	1420 "	1			
9TH												
10TH												
11TH												
12TH												

Shaft Horse Power at each turbine { H.P. ✓ I.P. ✓ L.P. 1512 } Revolutions per minute, at full power, of each Turbine Shaft { H.P. ✓ I.P. ✓ L.P. 2640 } 1st reduction wheel 428 main shaft 82

Rotor Shaft diameter at journals { H.P. ✓ I.P. ✓ L.P. 170 mm } Pitch Circle Diameter { 1st pinion 11.1404" 1st reduction wheel 68.7422" 2nd pinion 18.2827" main wheel 91.6992" } Width of Face { 1st reduction wheel 310 mm main wheel 680 mm }

Distance between centres of pinion and wheel faces and the centre of the adjacent bearings { 1st pinion 330 mm 1st reduction wheel 1830 mm 2nd pinion 487 mm main wheel 590 mm }

Transmission { 1st 130 mm 2nd ✓ } Pinion Shafts, diameter at bearings { External 1st 140 mm 2nd 420 mm Internal 1st 50 mm 2nd 355 mm } diameter at bottom of pinion teeth { 1st 10.5641" 2nd 14.5103" }

Wheel Shafts, diameter at bearings { 1st 300 mm 2nd 550 mm } diameter at wheel shroud, { 1st 1650 mm 2nd 228 mm } Generator Shaft, diameter at bearings 228 mm Propelling Motor Shaft, diameter at bearings 228 mm

Intermediate Shafts, diameter as per rule 1574 Thrust Shaft, diameter at collars as per rule 425 mm Tube Shaft, diameter as per rule 425 mm

Screw Shaft, diameter as per rule Is the tube screw shaft fitted with a continuous liner Bronze Liners, thickness in way of bushes as per rule as fitted

Thickness between bushes as per rule 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 Is 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 shaft Length of Bearing in Stern Bush next to and supporting propeller.

Propeller, diameter Pitch No. of Blades State whether Moveable Total Developed Surface square feet.

Single Screw, are arrangements made so that steam can be led direct to the L.P. Turbine Can the H.P. or I.P. Turbine exhaust direct to the condenser

No. of Turbines fitted with astern wheels Feed Pumps { No. and size How driven }

Pumps connected to the Main Bilge Line { No. and size How driven }

Ballast Pumps, No. and size 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, No. and size:—In Engine and Boiler Room Holds, &c.

Main Water Circulating Pump Direct Bilge Suctions, No. and size Independent Power Pump Direct Suctions to the Engine Room

Bilges, No. and size Are all the Bilge Suction pipes in Holds and Tunnel Well fitted with strum-boxes

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 they fitted with Valves or Cocks

Are all Sea Connections fitted direct on the skin of the ship Are they fixed sufficiently high on the ship's side to be seen without lifting the stokehold plates Are the Overboard Discharges above or below the deep water line Are they each fitted with a Discharge Valve always accessible on the plating of the vessel Are the Blow Off Cocks fitted with a spigot and brass covering plate How are they protected

What pipes pass through the bunkers Have they been tested as per rule

What pipes pass through the deep tanks Are all Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times

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 Is the Shaft Tunnel watertight Is it fitted with a watertight door worked from

BOILERS, &c.—(Letter for record ✓) Total Heating Surface of Boilers ✓

Is Forced Draft fitted ✓ No. and Description of Boilers ✓ Working Pressure ✓

Is a Report on Main Boilers now forwarded? ✓

Is { a Donkey } Boiler fitted? ✓ If so, is a report now forwarded? ✓
{ an Auxiliary }

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. State the articles supplied:— See attached list



FOR BAROLAY, CURLE & CO., LTD.

Alexander Macnair,
Chief Draughtsman

The foregoing is a correct description,

Manufacturer.

Dates of Survey while building { During progress of work in shops -- } 1938 Sep. 8, 15, 27, 30 Oct. 4, 7, 14, 21, 28 Nov. 4, 9, 15, 17, 18, 24, 28 Dec. 1, 5, 9, 15 (1939)
{ During erection on board vessel -- } Jan. 9, 24, 30 Feb. 3, 18, 24, 27 Mar. 3
Total No. of visits 28

Dates of Examination of principal parts—Casings 18-2-39 Rotors 30-1-39 Blading 27-2-39 Gearing 24-2-39

Man Wheel shafts 24-1-39 Thrust shaft 4-10-38 Intermediate shafts ✓ Tube shaft ✓ Screw shaft ✓
1st Red. 14-11-38 Propeller ✓ Stern tube ✓ Engine and boiler seatings ✓ Engine holding down bolts ✓

Completion of pumping arrangements ✓ Boilers fixed ✓ Engines tried under steam ✓

Main boiler safety valves adjusted Thickness of adjusting washers

Rotor shaft, Material and tensile strength S.M. Engt Steel 38.0 t

Identification Mark N° 8234 HAI 99 GA 98

Transmission Pinion shaft, Material and tensile strength S.M. Engt Steel 31.4 t

Identification Mark N° 8235 HAI 93 GA

1st & 2nd Reducers Pinion shaft, Material and tensile strength S.M. Engt Steel 41.6 t

10th Red. Identification Mark N° 8236 C.S.P. GA 60502 A

Pinion shaft, Material and tensile strength S.M. Engt Steel 41.6 t

2nd Red. Identification Mark N° 8237 HAI 91 GA

1st Reduction Wheel Shaft, Material and tensile strength S.M. Engt Steel 31.8 t

Identification Mark N° 8234 HAI 91 GA

Wheel shaft, Material S.M. Engt Steel Identification Mark N° 8234 HAI 905 GA Thrust shaft, Material S.M. Engt Steel Identification Mark N° 8234 HAI 99 GA

Intermediate shafts, Material Identification Marks Tube shaft, Material Identification Marks

Screw shaft, Material Identification Marks Steam Pipes, Material Test pressure

Date of test Is an installation fitted for burning oil fuel

Is the flash point of the oil to be used over 150°F. ✓ Have the requirements of the Rules for carrying and burning oil fuel been complied with ✓

Is this machinery a duplicate of a previous case Yes If so, state name of vessel S.S. 'SCIENTIST' No. N° 59888

General Remarks (State quality of workmanship, opinions as to class, &c.) This machinery has been built under Special Survey and in accordance with the Rules. The materials and workmanship are good. It will be fitted on board Messrs Lithgows Yard N° 914 at Glasgow in conjunction with Messrs G. Rowan's Eng. N° 1029.

886
18/3/39

The amount of Entry Fee ... £ : : When applied for,

Special ... £ 25 : 4 : 21 MAR 1939

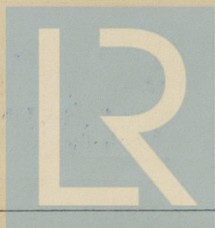
Donkey Boiler Fee ... £ : : When received,

Travelling Expenses (if any) £ : : 29. 4 19 39 88 4/5

Committee's Minute GLASGOW 21 MAR 1939

Assigned *Defered*

G. Anderson
Engineer Surveyor to Lloyd's Register of Shipping.



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