

No. 9720
26 SEP 1935

Date of writing Report 2 September 1935 When handed in at Local Office 19 Port of Copenhagen
 No. in Survey held at Copenhagen, Elsinore, Helsingør, Helsingborg Date, First Survey 3rd April Last Survey 11th September 1935
 Reg. Book. 9855 on the Steel Single Screw Steamer RAGNA GORTHON. (Number of Visits 19)
 Built at Helsingør By whom built A. Helsingørsk Maskinfabrik Helsingør Yard No. 53 When built 1935
 Engines made at Elsinore By whom made A. Helsingørsk Maskinfabrik Helsingør Engine No. 310 When made 1935
 Turbine & Gear Boilers made at Copenhagen By whom made A/S Alfa TURBINE No. 141 GEAR Boiler No. 129 When made 1935
 Shaft Horse Power at Full Power 375 Owners John Gorthon Port belonging to Helsingborg
 Nom. Horse Power as per Rule 241 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes
 Trade for which Vessel is intended General cargo

No. of Turbines Ahead One ~~Direct coupled,~~
Astern ✓ ~~single reduction geared~~ } to One ^{LAY} ~~propelling shafts~~ No. of primary pinions to each set of reduction gearing ✓
 ~~double reduction geared~~ } connected by chain drive to the thrust shaft
 Direct coupled to { Alternating Current Generator ✓ phase ✓ periods per second ✓ rated ✓ Kilowatts ✓ Volts at ✓ revolutions per minute, ✓
Direct Current Generator }
 or supplying power for driving ✓ Propelling Motors, Type ✓
 rated ✓ Kilowatts ✓ Volts at ✓ revolutions per minute. Direct coupled, single or double reduction geared to ✓ propelling shafts

Shaft Horse Power at each turbine	H.P.		Revolutions per minute, at full power, of each Turbine Shaft	H.P.		1st reduction wheel	366				
	I.P.			I.P.							
	L.P.	375		L.P.	4000	main shaft					
Turbine Shaft diameter at journals	H.P.		Pitch Circle Diameter	1st pinion	97.25 3/4	1st reduction wheel	1062.75	Width of Face	1st reduction wheel	2 x 125 = 250	
	I.P.			2nd pinion		main wheel			main wheel		
	L.P.	FORW. 70 1/4 AFT 65 3/4		CENTRAL HOLE 25 1/4							
Distance between centres of pinion and wheel faces and the centre of the adjacent bearings				1st pinion	204 3/4	1st reduction wheel	198 3/4				
				2nd pinion		main wheel					
Flexible Pinion Shafts, diameter	1st		Pinion Shafts, diameter at bearings	External	1st	80 3/4	2nd		diameter at bottom of pinion teeth	1st	89.79
	2nd			Internal	1st		2nd			2nd	
Wheel Shafts, diameter at bearings	1st	130 3/4	diameter at wheel shroud,	1st	165 3/4	80.78	Generator Shaft, diameter at bearings				
	main			main							
							Propelling Motor Shaft, diameter at bearings				

Intermediate Shafts, diameter	as per rule	Thrust Shaft, diameter at collar	as per rule	Tube Shaft, diameter	as per rule
	as fitted		as fitted		as fitted
Screw Shaft, diameter	as per rule	Is the { tube shaft fitted with a continuous liner }		Bronze Liners, thickness in way of bushes	as per rule
	as fitted				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 junction	
	as fitted				
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			
Elastic 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 Glass	
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 Movable	Total Developed Surface	square feet
For 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 _____

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

Pumps, No. and size:—In Engine and Boiler Room _____

In Holds, &c. _____

Main Water Circulating Pump Direct Bilge Suctions, No. and size _____

Bilges, No. and size _____

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 _____

Are they fixed sufficiently high on the ship's side to be seen without lifting the stokehold plates _____

Are they each provided with a Discharge Valve always accessible on the plating of the vessel _____

That pipes pass through the bunkers _____

How are they protected _____

That pipes pass through the deep tanks _____

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 _____

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 _____

Is it worked from _____

Lubricating Oil Pumps, including Spare Pump, No. and size _____

Suctions, connected to both Main Bilge Pumps and Auxiliary Bilge Pumps _____

Independent Power Pump Direct Suctions to the Engine Room _____

Are all the Bilge Suction pipes in Holds and Tunnel Well fitted with strum-boxes _____

Are they fitted with Valves or Cocks _____

Are the Overboard Discharges above or below the deep water line _____

Are the Blow Off Cocks fitted with a spigot and brass covering plate _____

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BOILERS, &c.—(Letter for record S.) Total Heating Surface of Boilers 321.24²
Is Forced Draft fitted *yes* No. and Description of Boilers *2 off single ended return multi-tubular* Working Pressure *220 lb/10*
Is a Report on Main Boilers now forwarded? *yes*
Is { a Donkey } Boiler fitted? *No* If so, is a report now forwarded? *✓*
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:— *✓*

AKTIESELSKABET ATLAS
Norman S. Hunter

Manufacturer.

The foregoing is a correct description,

Dates of Survey while building { During progress of work in shops -- 1935: 3/4-4/4-8/4-15/4-25/4-27/4-2/5-11/5-14/5-16/5-20/5-22/5-25/5-28/5-19/6.
During erection on board vessel --- 1935: 14/8-17/8-28/8-11/9.
Total No. of visits 19.
Dates of Examination of principal parts—Casings 3/4-27/4-11/5 Rotor + 3/4-9/4-25/4 Rotor shafts 11/5-14/5 Blading 27/4-11/5-14/5 Gearing 27/4-2/5-11/5-14/5
Wheel shaft 14/5 Thrust shaft Intermediate shafts Tube shaft Screw shaft
Propeller Stern tube EXHAUST TURBINE 17/8-28/8 Engine holding down bolts 28/8
Completion of pumping arrangements Boilers fixed Engines tried under steam 11/9.
Main boiler safety valves adjusted Thickness of adjusting washers
Rotor Rotor shaft, Material and tensile strength *Siemens H. high tensile steel forging 101 kg/44²* Identification Mark *LLOYD'S No 776A 4.14.5.35*
Flexible Pinion Shaft, Material and tensile strength Identification Mark *LLOYD'S No 7763 4.14.5.35*
Pinion shaft, Material and tensile strength *Siemens H. high tensile steel forging 96.3 kg/44²* Identification Mark *LLOYD'S No 7764 4.14.5.35*
1st Reduction Wheel Shaft, Material and tensile strength *Siemens H. high tensile steel 99.8 kg/44²* Identification Mark *LLOYD'S No 7765-7766 4.14.4.35*
Wheel shaft, Material *cast steel* Identification Marks *LLOYD'S No 3907 4.19.6.35*
Intermediate shafts, Material *cast steel* Identification Marks *LLOYD'S No 3907 4.19.6.35*
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 No If so, state name of vessel

General Remarks (State quality of workmanship, opinions as to class, &c.) *This exhaust steam turbine plant "The Ekström Exhaust Steam Turbine System" has been built under Special Survey in accordance with the Rules, the approved plans and the Secretary's letter E dated 25/1-13/2-11/4-1935.*
The material has been tested as required by the Rules as per certificates produced and the workmanship is good. The installation on board has been carried out to our satisfaction and on the trial trip the turbine worked under working conditions and found to work satisfactorily. Recommend the notation of "L.P. turbine with reduction gearing and chain drive" to be entered in the Register Book.

The amount of Entry Fee ... £ : :
Special ... *150.00*
Donkey Boiler Fee ... £ : :
Travelling Expenses (if any) £ : :
When applied for, 25.9.35
When received, 3.12.35

Michliff *S. Hansen*
Engineer Surveyors to Lloyd's Register of Shipping.

Committee's Minute FRI. 4 OCT 1935
Assigned *see J. & Machy Rpt.*

FRI. 25 OCT 1935
WED. 29 JAN 1936