

REPORT ON STEAM TURBINE MACHINERY.

No. 92230

pt. 4a.

Date of writing Report 19 When handed in at Local Office 14/2/35 Port of 3rd Dec/34 Last Survey 30 Jan 1935

No. in Survey held at 5000 Date, First Survey 3rd Dec/34 Last Survey 30 Jan 1935

Reg. Book. on the 5000 - pressure Bauer - wash turbine for hull

Built at Hull By whom built Amos & Smith Yard No. When built

Engine made at 5000 By whom made Swan Hunter & W R Smith Engine No. 1468 When made 1935

Boilers made at By whom made Boiler No. When made

Shaft Horse Power at Full Power 304 Owners Port belonging to

Nom. Horse Power as per Rule 51 Is Refrigerating Machinery fitted for cargo purposes Is Electric Light fitted

Trade for which Vessel is intended

TEAM TURBINE ENGINES, &c.—Description of Engines One L. Exhaust Bauer Wash Turbine.

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

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

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.

TURBINE LOADING.	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							23 1/4"	396 1/4"	1			
2ND							34 "	418 "	1			
3RD							44 "	438 "	1			
4TH							54 "	458 "	1			
5TH							65 "	480 "	1			
6TH							75 "	500 "	1			
7TH							84 "	524 "	1			
8TH							100 "	550 "	1			
9TH												
10TH												
11TH												
12TH												

Shaft Horse Power at each turbine H.P. 304 I.P. 4030 L.P. 4030

Revolutions per minute, at full power, of each Turbine Shaft 1st reduction wheel 415 main shaft 116.

Rotor Shaft diameter at journals H.P. 99.9 1/2 I.P. 111.985 1/2 L.P. 119.185 1/2

Pitch Circle Diameter 1st pinion 111.985 1/2 2nd pinion 201.342 1/2

Distance between centres of pinion and wheel faces and the centre of the adjacent bearings 1st pinion 112 3/4 2nd pinion 268 3/4

Flexible Pinion Shafts, diameter 1st 109.94 2nd 194.64

Pinion Shafts, diameter at bearings External 1st 109.94 2nd 180 3/4 Internal 1st 202 2nd 205 1/2

Wheel Shafts, diameter at bearings 1st 200 2nd 220 3/4

Generator Shaft, diameter at bearings 1st 1030 2nd 1084 1/2

Propelling Motor Shaft, diameter at bearings 1st 220 2nd 205 1/2

Intermediate Shafts, diameter as per rule 220 - 205 1/2

Thrust Shaft, diameter at collars as per rule 220 - 205 1/2

Tube Shaft, diameter as per rule 220 - 205 1/2

Screw Shaft, diameter as per rule 220 - 205 1/2

Bronze Liners, thickness in way of bushes as per rule 220 - 205 1/2

Thickness between bushes as per rule 220 - 205 1/2

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

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 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.

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

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 all Sea Connections fitted direct on the skin of the ship

Are they fitted with Valves or Cocks

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

What pipes pass through the bunkers

How are they protected

What 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

BOILERS, &amp;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?  
{ an Auxiliary }

If so, is a report now forwarded?

Plans. Are approved plans forwarded herewith for Shafting  
(If not state date of approval)

Main Boilers

Auxiliary Boilers

Donkey Boilers

Superheaters

General Pumping Arrangements

Oil Fuel Burning Arrangements

Spare Gear. State the articles supplied:—

as per Society's Rules, attached list.

FOR  
SWAN, HUNTER & WIGHAM RICHARDSON, LTD

Geo. H. Wright.

The foregoing is a correct description,

Manufacturer

Dates of Survey while building { During progress of work in shops -- } 1934 Dec. 3. 7. 10. 14. 20. 28. { During erection on board vessel --- } 1935 Jan. 3. 11. 14. 16. 22. 24. 30.  
Total No. of visits 13

Dates of Examination of principal parts—Casings 20. 12. 34 Rotors 28. 12. 34 Blading 28. 12. 34 Gearing 16. 1. 35.  
Wheel shaft 16. 1. 35 Thrust shaft 16. 1. 35 Intermediate shafts - Tube shaft - Screw shaft -  
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 Steel 37. 9 Tons per sq. Identification Mark 464 A.E.  
Pinion Shaft, Material and tensile strength Steel 43. 8 - do - Identification Mark 469 A.E.  
Pinion shaft, Material and tensile strength Steel 32 - do - Identification Mark 465 F.E.  
1st Reduction Wheel, Material and tensile strength Steel 36. 5 - do - Identification Mark 4601 J.E.  
Wheel shaft, Material and Identification Mark - Thrust shaft, Material Steel Identification Mark 467 A.E.  
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 the use of oil as fuel been complied with -  
Is the vessel (not being an oil tanker) fitted for carrying oil as cargo - If so, have the requirements of the Rules been complied with -  
Is this machinery a duplicate of a previous case yes. If so, state name of vessel Swan Hunter & Wigham Richardson Ltd. "Kingston Cornelian"

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

This low pressure Bauer-Wach exhaust turbine has been built under special survey in accordance with the Rules of the Society & the approved plans & has now been forwarded to Hull to be fitted on board a Trawler.

The quality of the materials & the workmanship are good throughout.

The amount of Entry Fee ... £ : :  
Special ... £ : :  
Donkey Boiler Fee ... £ 3 : 8 : 0  
Hull ... £ 1 : 14 : 0  
To be charged at Hull

When applied for, 14 FEB 1935  
When received, 21.2.1935

Fred A. Ferguson.  
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute

FRI. 15 MAR 1935

Assigned

See Hull 26. 45543



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Foundation