

REPORT ON STEAM TURBINE MACHINERY. No. 92384

Received at London Office 30 MAR 1935

Date of writing Report

19

When handed in at Local Office

28th Mar 1935 Port of Newcastle on TyneNo. in Survey held at
Reg. Book.

Newcastle

Date, First Survey

3rd Dec 1934

Last Survey

27th March 1935

on the

Low pressure Bauer track turbine for Hull

(Number of Visits 16)

Tons

Gross

Net

Built at

Hull

By whom built

C.D. Holmes & Co Ltd

Yard No.

75

When built

Engines made at

Newcastle

By whom made

Saw Hunter & Bryham

Engine No.

1474

When made

1935

Boilers made at

By whom made

Boiler No.

When made

Shaft Horse Power at Full Power

304

Owners

Kingson Steam Trawling Co Ltd

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

STEAM TURBINE ENGINES, &c.—Description of Engines

One L.P. Exhaust Bauer track turbine

No. of Turbines Ahead One Direct coupled, single reduction geared } to One propelling shafts. No. of primary pinions to each set of reduction gearing One
Astern double reduction geared }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
BLADING.

	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 1/2	396 1/2	1			
2ND							34	418	1			
3RD							44	438	1			
4TH							54	458	1			
5TH							65	480	1			
6TH							75	500	1			
7TH							87	524	1			
8TH							100	550	1			
9TH												
10TH												
11TH												
12TH												

Shaft Horse Power at each turbine { H.P. I.P. L.P. 304 ✓ } Revolutions per minute, at full power, of each Turbine Shaft { H.P. I.P. L.P. 1030 ✓ } 1st reduction wheel 715 main shaft 116 ✓Rotor Shaft diameter at journals { H.P. I.P. L.P. 99.9 ✓ } Pitch Circle Diameter { 1st pinion 111.985 1st reduction wheel 1101.185 2nd pinion 201.342 main wheel 1191.727 } Width of Face { 1st reduction wheel 110 1/2 main wheel 340 ✓ }Distance between centres of pinion and wheel faces and the centre of the adjacent bearings { 1st pinion 112 1st reduction wheel 98 2nd pinion 268 F 565 A main wheel 275 F 250 ap }Flexible Pinion Shafts, diameter { 1st 2nd } Pinion Shafts, diameter at bearings { External 1st 99.9 1/2 2nd 180 1/2 Internal 1st 20 2nd } diameter at bottom of pinion teeth { 1st 109.94 2nd 197.64 }Wheel Shafts, diameter at bearings { 1st 200 1/2 2nd 222 ✓ } diameter at wheel shroud, { 1st 1030 2nd 1087 } Generator Shaft, diameter at bearings 220.205 ✓ Propelling Motor Shaft, diameter at bearings 220.205 ✓Intermediate Shafts, diameter as per rule as fitted Thrust Shaft, diameter at collars as per rule 220.205 ✓ as fitted 220.205 ✓ Tube Shaft, diameter as per rule as fitted Screw Shaft, diameter as per rule as fitted 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 as fitted 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.If 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 } 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 In 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 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 stowhold 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 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?
{ 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:— 2 Studs & nuts each for turbine & pinion bearings, 2 Top bolts for 2nd reduction wheel bearings, 2 bolts & nuts for gear case top joint, 2 Studs & nuts for gear case middle joint, 14 Michell pads for main thrust & 10 for turbine thrust also 2 liners, ring for 2nd reduction pinion thrust. Spring & set washers for governor.

FOR
SWAN, HUNTER & WIGHAM RICHARDSON, LTD

The foregoing is a correct description,

Geo H Wright. Manufacturer

Dates of Survey while building { During progress of work in shops -- } 1934 Dec. 3. 7. 10. 14. 20. { During erection on board vessel --- } 1935 Jan 3. 11. 14. 16. 22. 23. Feb. 4. 27. Mar. 11. 18. 27.
Total No. of visits 16.

Dates of Examination of principal parts—Casings 4.2.35 Rotors 23.1.35 Blading 22.1.35 Gearing 27.3.35

Wheel shaft 22.1.35 Thrust shaft — 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 27.3.35

Main boiler safety valves adjusted — Thickness of adjusting washers —

Rotor shaft, Material and tensile strength Steel 40/ton Identification Mark 10852 MB ARR

Pinion shaft, Material and tensile strength " 44.3 Identification Mark 10859 MB ARR

Pinion shaft, Material and tensile strength " 32/ton Identification Mark 10848 MB ARR

1st Reduction Wheel Shaft, Material and tensile strength " " Rim 10832 MB. Identification Mark 11019 MB ARR

Wheel shaft, Material S 32/ton Identification Mark 10864 MB Thrust shaft, Material Identification Mark

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 for If so, state name of vessel BW Turbine 1468/70/71 now at Hull

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

This machinery has been constructed under special survey in accordance with the rules & approved plans. Found satisfactory under steam trial. Materials & workmanship good. The machinery is now being forwarded to Hull to be installed in conjunction with reciprocating machinery.

The amount of Entry Fee ... £ : :
Special 2/3. ... £ 3 : 8 :
Donkey Boiler Fee ... £ : :
Travelling Expenses (if any) £ : :

When applied for, 20 MAR 1935 J. Stoddart & A. Riddell.
When received, 1.4.35 2/4
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute TUE. 14 MAY 1935
Assigned See Incl 76. 45762