

# REPORT ON STEAM TURBINE MACHINERY. No. 92384

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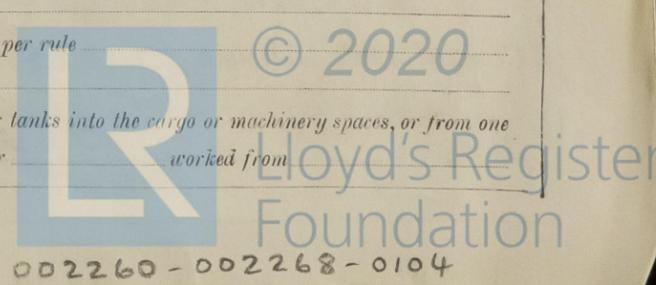
Date of writing Report 19... When handed in at Local Office 28<sup>th</sup> Mar 1935 Port of Newcastle on Tyne  
 No. in Survey held at Newcastle Date, First Survey 3<sup>rd</sup> Dec 1934 Last Survey 27<sup>th</sup> March 1935  
 Reg. Book. on the Low pressure Bauer track turbine for Hull (Number of Visits 16)  
 Built at Hull By whom built C.D. Holmes & Co Ltd Yard No. 75 When built  
 Engines made at Newcastle By whom made Swan Hunter & Wigham Richardson Ltd Engine No. 1474 When made 1935  
 Boilers made at By whom made Boiler No. When made  
 Shaft Horse Power at Full Power 304 ✓ Owners Kingston Steam Trawling Co Ltd Port belonging to  
 Nom. Horse Power as per Rule 57 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 7/8	396 7/8	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. 304 ✓ I.P. 7030 }  
 Rotor Shaft diameter at journals { H.P. 111.985 I.P. 1101.185 }  
 Distance between centres of pinion and wheel faces and the centre of the adjacent bearings { H.P. 201.342 I.P. 1191.727 }  
 Flexible Pinion Shafts, diameter { H.P. 99.9 I.P. 112 }  
 Wheel Shafts, diameter at bearings { H.P. 200 7/8 I.P. 1030 }  
 Intermediate Shafts, diameter { H.P. 222 I.P. 1087 }  
 Screw Shaft, diameter { H.P. 220.205 I.P. 220.205 }  
 Thickness between bushes { H.P. 109.94 I.P. 197.64 }  
 Propeller, diameter { H.P. 110 7/8 I.P. 340 ✓ }  
 Condenser { H.P. 98 I.P. 275 F 250 apv }  
 Feed Pumps { H.P. 109.94 I.P. 197.64 }  
 Pumps connected to the Main Bilge Line { H.P. 109.94 I.P. 197.64 }  
 Ballast Pumps, No. and size { H.P. 109.94 I.P. 197.64 }  
 Lubricating Oil Pumps, including Spare Pump, No. and size { H.P. 109.94 I.P. 197.64 }  
 Are two independent means arranged for circulating water through the Oil Cooler { H.P. 109.94 I.P. 197.64 }  
 Pumps, No. and size:—In Engine and Boiler Room { H.P. 109.94 I.P. 197.64 }  
 In Holds, &c. { H.P. 109.94 I.P. 197.64 }  
 Main Water Circulating Pump Direct Bilge Suctions, No. and size { H.P. 109.94 I.P. 197.64 }  
 Independent Power Pump Direct Suctions to the Engine Room { H.P. 109.94 I.P. 197.64 }  
 Bilges, No. and size { H.P. 109.94 I.P. 197.64 }  
 Are the Bilge Suctions in the Machinery Space led from easily accessible man-boxes, placed above the level of the working floor, with straight tail pipes to the bilges { H.P. 109.94 I.P. 197.64 }  
 Are all Sea Connections fitted direct on the skin of the ship { H.P. 109.94 I.P. 197.64 }  
 Are they fixed sufficiently high on the ship's side to be seen without lifting the stowchold plates { H.P. 109.94 I.P. 197.64 }  
 Are they each fitted with a Discharge Valve always accessible on the plating of the vessel { H.P. 109.94 I.P. 197.64 }  
 What pipes pass through the bunkers { H.P. 109.94 I.P. 197.64 }  
 What pipes pass through the deep tanks { H.P. 109.94 I.P. 197.64 }  
 Are all Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times { H.P. 109.94 I.P. 197.64 }  
 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 { H.P. 109.94 I.P. 197.64 }  
 Is the Shaft Tunnel watertight { H.P. 109.94 I.P. 197.64 }  
 Is it fitted with a watertight door { H.P. 109.94 I.P. 197.64 }



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 <sup>a Donkey</sup> ~~an Auxiliary~~ Boiler fitted? \_\_\_\_\_ 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:— 2 Studs & nuts each for turbine & pinion bearings, 2 Top bolts for 2<sup>nd</sup> 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 2<sup>nd</sup> reduction pinion thrust. Spring & set washers for governor.

FOR SWAN, HUNTER & WIGHAM RICHARDSON, LTD

Geo H Wright. Manufacturer

The foregoing is a correct description,

Dates of Survey while building	During progress of work in shops --	1934	1935					
		Dec. 3. 7. 10. 14. 20.	Jan 3. 11. 14. 16. 22. 23.	Feb. 4. 27.	Mar. 11. 18. 27.			
Total No. of visits	During erection on board vessel ---	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	—
Propeller		—	Stern tube	—	Engine and boiler seatings	—	Engine holding down bolts	—
Completion of pumping arrangements		—	Boilers fixed	—	B/W Turbine 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 Yes If so, state name of vessel BW Turbine No 1468/70/72 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 ... £	:	:	When applied for,
Special <u>2/3</u> ... £	3	8	<u>20 MAR 1935</u>
Donkey Boiler Fee ... £	:	:	When received,
Travelling Expenses (if any) £	:	:	<u>1.4 35</u>

J. Stoddart & W. Riddell.  
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute \_\_\_\_\_ TUE. 14 MAY 1935  
 Assigned \_\_\_\_\_ See Sub No. 45762

