

REPORT ON STEAM TURBINE MACHINERY. No. 1819.

Received at London Office 8 OCT 1936

pt. 4a.

Date of writing Report 25th Sept 1936 When handed in at Local Office

Port of BREMEN

No. in Survey held at BREMEN

Date, First Survey 17th Oct. 1935 Last Survey 2nd Sept. 1936

Reg. Book. 85086 on the Steel Twin Sc.

TERJE VIKEN

(Number of Visits 32) Tons Gross 20638 Net 13931

Built at BREMEN

By whom built DESCHIMAG, WERK: A.G. WESER Yard No. 914 When built 1936

Engines made at BREMEN

By whom made DESCHIMAG, WERK: A.G. WESER Engine No. DT. 806/807 When made 1936

Boilers made at BREMEN

By whom made DESCHIMAG, WERK: A.G. WESER Boiler No. 1689-1694 When made 1936

Shaft Horse Power at Full Power

Owners UNITED WHALERS LTD Port belonging to LONDON

Nom. Horse Power as per Rule 1248

Is Refrigerating Machinery fitted for cargo purposes no Is Electric Light fitted yes

Trade for which Vessel is intended WHALING SERVICE

STEAM TURBINE ENGINES, &c.—Description of Engines 2 L.P. TURBINES, DOUBLE REDUCTION GEARED, HYDRAULIC COUPLING. SYSTEM: BAUER-WACH.

Direct coupled, single reduction geared, double reduction geared } to 1 propelling shafts. No. of primary pinions to each set of reduction gearing 1

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.

TURBINE LADING.	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							50 1/2	800 1/2	1			
2ND							69	838	1			
3RD							88	876	1			
4TH							108	916	1			
5TH							132	964	1			
6TH							158	1016	1			
7TH							185	1070	1			
8TH												
9TH												
10TH												
11TH												
12TH												

Shaft Horse Power at each turbine { H.P. 885 I.P. 3870 L.P. 3870 } 1st reduction wheel 652/630 main shaft 103

Rotor Shaft diameter at journals { H.P. 125 I.P. 125 L.P. 125 } Pitch Circle Diameter { 1st pinion 220.934 2nd pinion 310.69 } 1st reduction wheel 1341.798 2nd reduction wheel 1905.56 250 2 530 2

Distance between centres of pinion and wheel faces and the centre of the adjacent bearings { 1st pinion 255, 215 2nd pinion 382 } 1st reduction wheel 1440 2 - 370 2 main wheel 480 2

Flexible Pinion Shafts, diameter { 1st 190 2nd 120 } Pinion Shafts, diameter at bearings { External 115 2nd 230 } 1st 209.934 2nd 294.17

Wheel Shafts, diameter at bearings { 1st 190 2nd 120 } diameter at wheel shroud { 1st 270 2nd 460/485 } Generator Shaft, diameter at bearings 270 2 Propelling Motor Shaft, diameter at bearings 460/485 2

Intermediate Shafts, diameter as per rule 320 2 as fitted 322 2 Thrust Shaft, diameter at collars as per rule 320 2 as fitted 322 2

Tube Shaft, diameter as per rule as fitted Screw Shaft, diameter as per rule as fitted Is the tube 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 If so, state type Length of Bearing in Stern Bush next to and supporting propeller. Total Developed Surface square feet.

Propeller, diameter Pitch No. of Blades State whether Moveable Can the H.P. or I.P. Turbine exhaust direct to the

If Single Screw, are arrangements made so that steam can be led direct to the L.P. Turbine

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 Suctions, connected to both Main Bilge Pumps and Auxiliary Bilge

Are two independent means arranged for circulating water through the Oil Cooler In Pump Room

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 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

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BOILERS, &c.—(Letter for record) Total Heating Surface of Boilers Working Pressure
Is Forced Draft fitted No. and Description of Boilers
Is a Report on Main Boilers now forwarded? If so, is a report now forwarded?

Is a Donkey Boiler fitted?
Is the donkey boiler intended to be used for domestic purposes only

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

Superheaters General Pumping Arrangements Oil Fuel Burning Arrangements

Has the spare gear required by the Rules been supplied

State the principal spare gear supplied

2 compl. sets of fore-aft turbine bearing tranes
2 " " " coupling shaft bearing tranes
4 " " " turbine pinion shaft bearing tranes
24 pads & bolts for turbine thrust bearing
28 " " " main pinion thrust bearing
20 " " " Propeller thrust bearing
1 spring for quick closing governor
2 " " " coupling screw motor
6 " " " main pinion thrust bearing
2 " " " relief valve
2 coupling bolts for turbine rotor
75 Anter for oil cover
8 spare thermometer

The foregoing is a correct description, Deutsche Schiff- und Maschinenbau Aktiengesellschaft

Dates of Survey while building
During progress of work in shops
During erection on board vessel
Total No. of visits

Dates of Examination of principal parts—Casings

Wheel shaft Thrust shaft Intermediate shafts Tube shaft Screw shaft

Propeller Stern tube Engine and boiler seatings Engine holding down bolts

Completion of fitting sea connections 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 Identification Mark

Pinion shaft, Material and tensile strength Identification Mark

1st Reduction Wheel Shaft, Material and tensile strength Identification Mark

Wheel shaft, Material Identification Mark 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

If the notation for ice strengthening is desired, state whether the requirements in this respect have been complied with

Is this machinery a duplicate of a previous case If so, state name of vessel

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

couplings are built under special survey in accordance with the approved plans, the

Secretary's letter and in conformity with the requirements of the Rules.

During the vessels trial trip all parts have been tried under full working

and manoeuvring condition and found satisfactory in all respects.

Materials and workmanship are of good quality.

included on Rpt 4

The amount of Entry Fee ... £

Special ... £

Donkey Boiler Fee ... £

Travelling Expenses (if any) £

Committee's Minute

Assigned

FRI. 16 OCT 1936

See J. E. Mackay Report



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