

Report on Steam Turbine Machinery.

No. 10807

pt. 4a.

Received at London Office

Date of writing Report 12.5.1948 When handed in at Local Office 14.5.1948 Port of Falmouth
 No. in Survey held at Falmouth Date, First Survey 6-4-48 Last Survey 22-4-1948
 Reg. No. 21543 on the S.S. 'CHISHOLM TRAIL' (Number of Visits 8)

Tons {Gross 10660
 Net 6822
 Built at Portland, Or By whom built Kaiser Co. Inc. Yard No. 511997 When built 1945
 Engines made at Lynn, Mass By whom made General Electric Co. Engine No. 511997 When made 1945
 Boilers made at By whom made Combustion Engineering Co. Inc. Boiler No. 511997 When made 1945
 Shaft Horse Power at Full Power 6000 Owners British Tanker Co. Ltd. Port belonging to London
 Nom. Horse Power as per Rule M.N. 1486 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes
 Trade for which Vessel is intended carrying Petroleum in bulk

STEAM TURBINE ENGINES, &c.—Description of Engines. One Curtis Impulse 10 Stage Turbine

No. of Turbines One Direct coupled, single reduction geared to one propelling shafts. No. of primary pinions to each set of reduction gearing one
 direct coupled to { Alternating Current Generator 3 phase 6.2 periods per second } rated 5400 Kilowatts 2370 Volts at 3715 revolutions per minute
 for supplying power for driving ONE Propelling Motor, Type 3 Phase, 62 Cycle, 80 Pole, Revolving Field, Salient Pole, Synchronous
 rated 6000 B.H.P. Kilowatts 2300 Volts at 90 revolutions per minute. Direct coupled, single or double reduction geared to one propelling shafts.

TURBINE			H. P.			I. P.			L. P.			ASTERN.		
BLADING.			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					2									
2nd	"				1									
3rd	"				1									
4th	"				1									
5th	"				1									
6th	"				1									
7th	"				1									
8th	"				1									
9th	"				1									
10th	"				1									
11th	"				1									
12th	"				1									

Shaft Horse Power at each turbine H.P. 5400 I.P. 2370 L.P. 2300 Revolutions per minute, at full power, of each Turbine Shaft H.P. 3715 I.P. 3715 L.P. 90

Rotor Shaft diameter at journals H.P. 5' 10" I.P. 5' 10" L.P. 5' 10" Pitch Circle Diameter { 1st pinion ✓ 1st reduction wheel ✓ 2nd pinion ✓ main wheel ✓ Width of Face { 1st reduction wheel ✓ main wheel ✓

Distance between centres of pinion and wheel faces and the centre of the adjacent bearings { 1st pinion ✓ 1st reduction wheel ✓ 2nd pinion ✓ main wheel ✓

Flexible Pinion { 1st ✓ 2nd ✓ Pinion Shafts, diameter at bearings { External { 1st ✓ 2nd ✓ Internal { 1st ✓ 2nd ✓ diameter at bottom of pinion teeth { 1st ✓ 2nd ✓

Wheel Shafts, diameter at bearings { 1st ✓ main ✓ diameter at wheel shroud, { 1st ✓ main ✓ Generator Shaft, diameter at bearings 5.584" Propelling Motor Shaft, diameter at bearings 17.268"

Intermediate Shafts, diameter as per rule 16.56" as fitted 16.56" Thrust Shaft, diameter at collar as per rule 18.185" as fitted 18.185" Is the { screw } shaft fitted with a continuous liner { yes

Tube Shaft, diameter as per rule 18.58" as fitted 18.58" Screw Shaft, diameter as per rule 18.58" as fitted 18.58" Is the { screw } shaft fitted with a continuous liner { yes

Brass Liners, thickness in way of bushes as per rule 1.58" as fitted 1.58" Thickness between bushes as per rule 1.58" as fitted 1.58" Is the after end of the liner made watertight in the propeller boss yes

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 no If so, state type ✓ Length of Bearing in Stern Bush next to and supporting propeller 17.3"

Propeller, diameter 19' 6" Pitch 14' 6" No. of Blades 4 State whether Moveable no Total Developed Surface 138.3 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. Turbines exhaust direct to the Condenser ✓

No. of Turbines fitted with astern wheels None Feed Pumps { No. and size 2 Centrif. 2000 G.P.M. 1 duplex 10' 7' x 24" How driven Electric Steam Hydraulic

Pumps connected to the Main Bilge Line { No. and size 2-175 G.P.M. 1 Butternut 150 G.P.M. 1 Butternut 150 G.P.M. 1 Butternut 150 G.P.M. How driven Motor Motor Motor Motor

Ballast Pumps, No. and size 10' 7' x 10' in 2nd Pump Room Lubricating Oil Pumps, including Spare Pump, No. and size 1 Motor 60 G.P.M. Are two independent means arranged for circulating water through the Oil Cooler yes

Suctions, connected both to Main Bilge Pumps and Auxiliary Bilge Pumps, No. and size:—In Engine and Boiler Room 8 @ 2", 2 @ 3" + 2 @ 4" In Pump Room 2 @ 2", 2 @ 3", 2 @ 4" In Holds, &c. Reserve Store & Ammunition Locker 3-1" Ejectors, Chain Locker 2" Ejectors

Main Water Circulating Pump Direct Bilge Suctions, No. and size One @ 18" Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size 2 @ 4" 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 Valves

Are they fixed sufficiently high on the ship's side to be seen without lifting the stokehold plates yes Are the Overboard Discharges above or below the deep water line below Are they each fitted with a Discharge Valve always accessible on the plating of the vessel yes Are the Blow Off Cocks fitted with a spigot and brass covering plate no What pipes pass through the bunkers None How are they protected ✓

What pipes pass through the deep tanks None 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 yes

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 yes Is the Shaft Tunnel watertight yes Is it fitted with a watertight door yes worked from floor level

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BOILERS, &c.—(Letter for record 5) Total Heating Surface of Boilers 11354 sq
Is Forced Draft fitted Yes No, and Description of Boilers 2 N.T.B. Working Pressure 500 LBS/IN²
Is a Report on Main Boilers now forwarded? Yes
Is a Donkey Boiler fitted? No If so, is a report now forwarded? ✓
an Auxiliary
Is the donkey boiler intended to be used for domestic purposes only? ✓
Plans. Are approved plans forwarded herewith for Shafting No Main Boilers No Auxiliary Boilers ✓ Donkey Boilers ✓
(If not, state date of approval) approved London Letter 19/4/48 Oil Fuel Burning Arrangements approved London Letter 19/4/48
Superheaters No General Pumping Arrangements approved London Letter 19/4/48

SPARE GEAR.

Has the spare gear required by the Rules been supplied? Yes, except spare propeller, which has been ordered
State the principal additional spare gear supplied.

The foregoing is a correct description,

Manufacturer.

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

Dates of Examination of principal parts—Casings Rotors Blading Gearing
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
Flexible Pinion 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? Yes
Is the flash point of the oil to be used over 150°F? Yes 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? Yes If so, state name of vessel T.2 Type Tanker

General Remarks. (State quality of workmanship, opinions as to class, &c.) The machinery of this vessel was constructed under the Special Survey & to the requirements of the American Bureau of Shipping & the materials & workmanship, so far as now seen, are considered satisfactory.
For recommendations as to class, please see Rpt 9.

The amount of Entry Fee ... £ : : When applied for.
Special ... £ : : 10
Donkey Boiler Fee ... £ : : When received.
Travelling Expenses (if any) £ : : 10

FRI. 4 JUN 1948

Committee's Minute

Assigned

See Rpt 9

Geo. Stevenson & A. M. Moring
Engineer Surveyors to Lloyd's Register of Shipping.



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Rpt. 4d.

Date of writing

No. in Reg. Book.

55/23.

Built at

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STEAM E

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