

13th	Expansion	1.224"	13.225"	1
14th	"	1.300	13.359	1
15th	"	1.376	13.444	1
16th	"	1.452	13.628	1
17th	"	1.528	13.763	1
18th	"	1.604	13.897	1
19th	"	1.680	14.032	1

4.060"	27.390"	1
4.254	28.338	1
5.142	29.998	1
5.840	30.902	1
6.863	31.928	1
7.971	33.040	1
9.240	34.308	1

© 2020

Lloyd's Register
Foundation

(Please see under)

003116 - 003123 - 0252 2/2

Rpt. 4a.

REPORT ON STEAM TURBINE MACHINERY. No. 4903

Received at London Office 27 JAN 1948

Date of writing Report 8th Nov. 1947 When handed in at Local Office 8th Nov. 1947 Port of Galveston, Texas
 No. in Survey held at Port Arthur, Texas Date, First Survey 13th Aug. Last Survey 8th October, 1947
 Reg. Book on the S/S "GULFDAWN" **NOW BIG HORN** (Number of Visits 3)
 Tons { Gross 7096 Net 4337
 Built at Chester, Pa. By whom built Sun S. B. & D. D. Co. Yard No. H.P. 18122 When built 1936
 Engines made at Philadelphia, Pa. By whom made Westinghouse Elec. & Mfg. Co. Engine No. L.P. 18124 When made 1934
 Boilers made at Sparrows Pt., Md. By whom made Bethlehem Steel Corp. Boiler No. (806) (807) When made 1936
 Shaft Horse Power at Full Power 2800 Owners Sabine Transportation Co. Port belonging to Baltimore, Md.
 Nom. Horse Power as per Rule = 649. MN = 865 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 2 D.R. Geared Steam Turbines

No. of Turbines Ahead 2 ~~Direct coupled,~~ ~~single reduction geared~~ } to 1 propelling shafts. No. of primary pinions to each set of reduction gearing
 Astern 1 ~~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 { Screw Shaft Direct Current Generator }
 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. AT TIP.	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	.835"	12.134"	1				1.765"	19.777"	1	.704"	28.937"	1
2ND "	.858	12.215	1				1.840	20.287	1	1.500	29.875	1
3RD "	.881	12.297	1				1.914	20.797	1	1.922	30.250	1
4TH "	.904	12.378	1				1.992	21.307	1	3.093	31.500	1
5TH "	.924	12.460	1				2.067	21.817	1			
6TH "	.950	12.541	1				2.142	22.328	1			
7TH "	.983	12.633	1				2.217	22.838	1			
8TH "	1.016	12.724	1				2.382	23.460	1			
9TH "	1.049	12.816	1				2.693	24.205	1			
10TH "	1.082	12.907	1				3.006	24.951	1			
11TH "	1.115	12.999	1				3.417	25.696	1			
12TH "	1.148	13.090	1				3.630	26.441	1			

Shaft Horse Power ~~at each turbine~~ { H.P. 2800 } Revolutions per minute, at full power, of each Turbine Shaft { H.P. 4830 1st reduction wheel 509 }
 { L.P. } { L.P. 3620 main shaft 78 }

Rotor Shaft diameter at journals { H.P. 4" } Pitch Circle Diameter { 1st pinion 7.9" 1st reduction wheel 74.96" Width of Face { 1st reduction wheel 14 1/4" }
 { L.P. 6 1/4" dia. } { 2nd pinion 16.01 main wheel 104.28 } { main wheel 12 11/16" x 2 widths }

Distance between centres of pinion and wheel faces and the centre of the adjacent bearings { 1st pinion 5 5/8" 1st reduction wheel - }
 { 2nd pinion 5 5/8" main wheel - }

Flexible Pinion Shafts, diameter { 1st HP 3 1/4" } Pinion Shafts, diameter at bearings External { 4" } diameter at bottom of pinion teeth { 1st 7.55" }
 { 2nd LP 3 1/4" } Internal { - } { 2nd 15.66 }

Wheel Shafts, diameter at bearings { 1st 10" } diameter at wheel shroud, { 1st 5' - 11.66" Generator Shaft, diameter at bearings 4" }
 { main 16" } { main 8' - 4.4" Propelling Motor Shaft, diameter at bearings 16" }

Intermediate Shafts, diameter as per rule 14 1/2" Thrust Shaft, diameter at collars as per rule 3 1/2" L.P. & 3" H.P. Tube Shaft, diameter as per rule -
 as fitted 14 1/2" as fitted 3 1/2" L.P. & 3" H.P. as fitted -

Screw Shaft, diameter as per rule 16" dia. Is the screw shaft fitted with a continuous liner { Yes } Bronze Liners, thickness in way of bushes as per rule 15/16
 as fitted 16" dia. as fitted 15/16

Thickness between bushes as per rule - 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 Length of Bearing in Stern Bush next to and supporting propeller 8' - 7 1/4"

Propeller, diameter 17' - 6" Pitch 17' - 6" No. of Blades 4 State whether Moveable Moveable Total Developed Surface 105.3 square feet.

If Single Screw, are arrangements made so that steam can be led direct to the L.P. Turbine Yes Can the H.P. or I.P. Turbine exhaust direct to the

Condenser Yes No. of Turbines fitted with astern wheels One Feed Pumps No. and size 4 - 2-10" x 6" x 24 1 - capacity 125 gal/min.
 How driven 3 by steam 1 - electric motor

Pumps connected to the Main Bilge Line { No. and size 2 Bilge pumps, 1 - 14" x 10 1/2" x 12" duplex 1 - 6" x 4" x 6" duplex }
 How driven 2 pumps by steam

Ballast Pumps, No. and size 1 Pump 1-14" x 10 1/2" x 12" Lubricating Oil Pumps, including Spare Pump No. and size 1-4" suction 4" discharge
 1-4" suction 4" discharge - spare not

Are two independent means arranged for circulating water through the Oil Cooler Yes Suctions, connected to both Main Bilge Pumps and Auxiliary Bilge in use

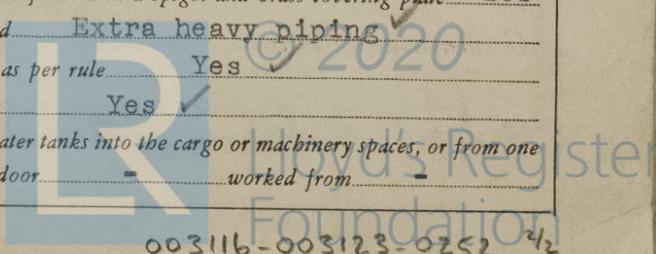
Pumps, No. and size:—In Engine and Boiler Room 8 - 4" suction
 in Holds, &c. 1-4" fore peak 1-3" ford. pump room 2-3" ford. hold 2-4" mid pump room

Main Water Circulating Pump Direct Bilge Suctions, No. and size 1-10" Independent Power Pump Direct Suctions to the Engine Room
 Bilges, No. and size (4-4") Are all the Bilge Suction pipes in Holds and Tunnel Well fitted with strum-boxes Yes

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 Yes
 Are all Sea Connections fitted direct on the skin of the ship Yes 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 Yes
 What pipes pass through the bunkers Aft cofferdam suction How are they protected Extra heavy piping
 What pipes pass through the deep tanks None Have they been tested as per rule Yes

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 None Is it fitted with a watertight door - worked from



BOILERS, &c.— (Letter for record.....) Total Heating Surface of Boilers 4835 sq. ft. each
 Is Forced Draft fitted Yes No. and Description of Boilers 2-F.W. Boiler with Superheat & Economiser fitted Working Pressure 450 lbs.
 Is a Report on Main Boilers now forwarded? Yes
 Is a Donkey Boiler fitted? No If so, is a report now forwarded?.....
 Plans. Are approved plans forwarded herewith for Shafting App. by A.B.S. Main Boilers App. by A.B.S. Auxiliary Boilers - Donkey Boilers -
 Superheaters App. by A.B.S. General Pumping Arrangements App. by A.B.S. Oil Fuel Burning Arrangements App. by A.B.S.
 Spare Gear. State the articles supplied: More than rule requirement.

The foregoing is a correct description,

Manufacturer

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..... 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 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.....

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 Gulfbelle

General Remarks (State quality of workmanship, opinions as to class, &c. Now generally examined (see Galveston Report) and

found to be efficiently and securely fitted in the vessel. Particulars and arrangements verified

and so far as seen found in accordance with the particulars shown on this form and in general con-

formity with the Society's Rules. All steam pipes tested to 2 W.P.

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

Certificate (if required) to be sent to.....

The amount of Entry Fee	£	:	9	When applied for,
Special	£	:	19	
Donkey Boiler Fee	£	:		When received,
Travelling Expenses (if any)	£	:	19	

NEW YORK DEC 30 1911

James L. ...
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute
 Assigned Class substituted

