

REPORT ON STEAM TURBINE MACHINERY. No. 4262

of writing Report. **30 March 1949** When handed in at Local Office. **19** Port of **Boston, Massachusetts**
 in Survey held at **Quincy, Mass.** Date, First Survey **16 March** Last Survey **29 March** 19 **49**
 Reg. Book (Number of Visits **5**)
 on the **Tons** { Gross
 Net
 ult at **Sparrows Point, Md.** By whom built **Bethlehem Steel Co.** Yard No. **4467** When built **1949**
 gines made at **Quincy, Mass.** By whom made **Bethlehem Steel Co.** H.P. Engine No. **7025** When made **1949**
 L.P. Engine No. **15825**
 ilters made at By whom made Boiler No. When made
 ft Horse Power at Full Power **12,500** Owners **Gulf Oil Co.** Port belonging to
 m. Horse Power as per Rule **1325** Is Refrigerating Machinery fitted for cargo purposes. Is Electric Light fitted
 ade for which Vessel is intended

STEAM TURBINE ENGINES, &c.—Description of Engines **Cross Compound Turbines**
 of Turbines Ahead **Two** ~~XXXXXXXXXX~~ to **One** propelling shafts. No. of primary pinions to each set of reduction gearing **Two**
 Astern **One** ~~XXXXXXXXXX~~ double reduction geared
 ect coupled to { Alternating Current Generator phase periods per second } rated Kilowatts Volts at revolutions per minute;
 Direct Current Generator
 supplying power for driving Propelling Motors, Type
 d Kilowatts Volts at revolutions per minute. Direct coupled, single or double reduction geared to propelling shafts.

	H. P.			L. P. REACTION.			L. P. CONT'D.			ASTERN. IMPULSE		
	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.
ST EXPANSION	3/4"	29-1/8"	1	1.750"	32.303"	1	3.277"	44.743"	1	3/4"	48-1/8"	1
1st	1-3/8"	30"	1	1.800"	33.160"	1	3.965"	46.519"	1	1-1/4"	48-5/8"	1
2nd	1-1/8"	18-3/4"	5	1.876"	34.016"	1	4.113"	48.295"	1	1-3/4"	49-1/8"	1
RD	1-3/8"	19-1/4"	4	1.951"	34.870"	1	4.633"	51.640"	1	2nd Stage		
TH	1-5/8"	19-3/4"	4	2.027"	35.728"	1	5.173"	53.869"	1	4"	47"	1
Feb. TH	1-7/8"	20-1/4"	3	2.102"	36.584"	1	6.074"	56.275"	1	6"	49"	1
TH	2-1/8"	20-3/4"	3	2.223"	37.710"	1	7.354"	58.835"	1			
n. 19 TH	2-1/2"	21-1/2"	3	2.370"	38.814"	1	8.722"	61.571"	1			
, 194 TH				2.516"	39.916"	1	10.250"	64.625"	1			
949 TH				2.662"	41.768"	1						
949 TH				2.808"	42.120"	1						
TH				2.954"	43.222"	1						
23.9 TH												
23.9 TH												

ft Horse Power at each turbine { H.P. 6250
 I.P. 6250
 L.P. 6250
 Revolutions per minute, at full power, of each Turbine Shaft { H.P. 4700
 I.P. 1st reduction wheel
 L.P. 2600 main shaft 100
 Shaft diameter at journals { H.P. 5"
 I.P. Pitch Circle { 1st pinion 1st reduction wheel
 L.P. 9" Diameter { 2nd pinion main wheel
 Width of { 1st reduction wheel
 Face { 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

xible Pinion { 1st
 s. i. shafts, diameter { 2nd
 Pinion Shafts, diameter at bearings External 1st { 2nd { diameter at bottom of pinion teeth { 1st
 Internal { 2nd {
 wheel Shafts, diameter at bearings { 1st diameter at wheel shroud, { 1st Generator Shaft, diameter at bearings
 main { main Propelling Motor Shaft, diameter at bearings
 Intermediate Shafts, diameter as per rule Thrust Shaft, diameter at collars as per rule Tube Shaft, diameter as per rule
 as fitted as fitted
 ew Shaft, diameter as per rule Is the { tube { shaft fitted with a continuous liner { Bronze Liners, thickness in way of bushes as per rule
 as fitted as fitted screw
 Thickness between bushes as per rule 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
 as fitted as fitted

New e 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
 tic 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
 lled e ther appliance fitted at the after end of the tube shaft Length of Bearing in Stern Bush next to and supporting propeller
 xilipeller, diameter Pitch No. of Blades State whether Moveable Total Developed Surface square feet.
 Single Screw, are arrangements made so that steam can be led direct to the L.P. Turbine Can the H.P. or L.P. Turbine exhaust direct to the

enses No. of Turbines fitted with astern wheels Feed Pumps { No. and size
 How driven
 ps connected to the Main Bilge Line { No. and size
 How driven

ast Pumps, No. and size Lubricating Oil Pumps, including Spare Pump, No. and size
 two independent means arranged for circulating water through the Oil Cooler Suctions, connected to both Main Bilge Pumps and Auxiliary Bilge
 ps, No. and size:—In Engine and Boiler Room

n Water Circulating Pump Direct Bilge Suctions, No. and size Independent Power Pump Direct Suctions to the Engine Room
 s, No. and size Are all the Bilge Suction pipes in Holds and Tunnel Well fitted with strum-boxes
 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

all Sea Connections fitted direct on the skin of the ship Are they fitted with Valves or Cocks
 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
 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
 t pipes pass through the bunkers How are they protected
 t pipes pass through the deep tanks Have they been tested as per rule

all Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times
 e 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
 artment 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?.....

If so, is a report now forwarded?.....

Is { a Donkey } Boiler fitted?.....
an Auxiliary

Main Boilers.....

Auxiliary Boilers.....

Donkey Boilers.....

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

Superheaters..... General Pumping Arrangements.....

Oil Fuel Burning Arrangements.....

Spare Gear. State the articles supplied:—.....

One complete set of bearing shells and thrust shoes.

Six H. P. casing joint bolts.

Eleven L. P. casing joint bolts.

Six bearing cap studs.

The foregoing is a correct description,

Bethlehem Steel Co. Quincy
by A. W. Gardner

Dates of Survey { During progress of } March 16, 17, 23, 28, 29, 1949
while building { work in shops -- }
{ During erection on }
{ board vessel -- }
Total No. of visits 5

Dates of Examination of principal parts—Casings Mar. 16, 23, 29, 1949 Rotors Mar. 16, 23, 29, 1949 Blading Mar. 16, 23, 29, 1949 Gearing Mar. 16, 23, 29, 1949

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.....

L. P. Main boiler safety valves adjusted..... Thickness of adjusting washers.....
H. P. Rotor ~~XXX~~, Material and tensile strength 0. H. Steel 85,500
0. H. Steel 108,000

No. 8138, J.K.H.; 23-9-
No. 8139, J.K.H.; 23-9-

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..... If so, state name of vessel.....

General Remarks (State quality of workmanship, opinions as to class, &c. The H. P. and L. P. turbines have been completed under Special Survey in accordance with approved plans. The forgings and castings were tested and for particulars, please refer to attached Certificates. The workmanship and materials are good. The turbines have been tried out in the shop under no load conditions and found satisfactory. The turbines have been forwarded to the Bethlehem Steel Company, Sparrows Point Yard, Sparrows

Md.

Fee to be set at Baltimore

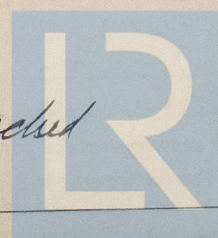
The amount of Entry Fee	£	:	When applied for,
Special	£	:	19
Donkey Boiler Fee	£	:	When received,
Travelling Expenses (if any)	£	:	19
	\$8.00	:	

Thomas Bowie
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute

NEW YORK JUL 27 1949

Assigned See First Entry Report Bal. 8911 attached



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Foundation