

REC'D NEW YORK AUG 24 1920

Luckenbach Steamer

# REPORT ON MACHINERY

No. 3951  
TUE APR. 24 1923

Received at London Office

Writing Report \_\_\_\_\_ 19 \_\_\_\_\_ When handed in at Local Office \_\_\_\_\_ 19 \_\_\_\_\_ Port of Philadelphia

Survey held at Yernton N.J. Date, First Survey \_\_\_\_\_ Last Survey \_\_\_\_\_ 19 \_\_\_\_\_  
(Number of Visits \_\_\_\_\_)

Book \_\_\_\_\_ Tons { Gross \_\_\_\_\_ Net \_\_\_\_\_

on the \_\_\_\_\_

When built \_\_\_\_\_

By whom made De Laval Steam Turbine Co. 1920 when made \_\_\_\_\_

By whom made \_\_\_\_\_ when made \_\_\_\_\_

Port belonging to \_\_\_\_\_

Horse Power \_\_\_\_\_ Owners \_\_\_\_\_

Horse Power at Full Power 2500 Is Refrigerating Machinery fitted for cargo purposes \_\_\_\_\_ Is Electric Light fitted \_\_\_\_\_

LINE ENGINES, &c. — Description of Engines Single reduction geared turbines No. of Turbines Two

of Rotor Shaft Journals, H.P. 6" L.P. 6" Diameter of Pinion Shaft 5"

of Journals 5" Distance between Centres of Bearings 24 3/8" Diameter of Pitch Circle 5.4"

of Wheel Shaft 5.885 Distance between Centres of Bearings 60" Diameter of Pitch Circle of Wheel 119.8"

of Face 29" Diameter of Thrust Shaft under Collars \_\_\_\_\_ Diameter of Tunnel Shaft \_\_\_\_\_ as per rule \_\_\_\_\_ as fitted \_\_\_\_\_

Screw Shafts \_\_\_\_\_ Diameter of same \_\_\_\_\_ as per rule \_\_\_\_\_ Diameter of Propeller \_\_\_\_\_ Pitch of Propeller \_\_\_\_\_ as fitted \_\_\_\_\_

Blades \_\_\_\_\_ State whether Moveable \_\_\_\_\_ Total Surface \_\_\_\_\_ Diameter of Rotor Drum, H.P. \_\_\_\_\_ L.P. \_\_\_\_\_ Astern \_\_\_\_\_

at Bottom of Groove, H.P. \_\_\_\_\_ L.P. \_\_\_\_\_ Astern \_\_\_\_\_ Revs. per Minute at Full Power 2110 Propeller 110

## PARTICULARS OF BLADING.

	H. 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.
EXPANSION	1.15	32.551	2	1.324	41.903	1	1.60	39.124	2
"	1.15	32.264	1	1.478	50.081	1	1.150	39.674	2
"	1.15	32.264	1	2.166	50.843	1	1.453	41.674	2
"	1.15	32.264	1	2.456	52.051	1	2.095	42.665	2
"	1.15	32.264	1	3.150	51.513	1			
"	1.15	32.264	1	4.015	53.313	1			
"	1.15	32.264	1	4.424	54.023	1			
"	1.15	32.264	1	6.300	55.433	1			

Bilge Injections \_\_\_\_\_ sizes \_\_\_\_\_ Connected to condenser, or to circulating pump \_\_\_\_\_ Is a separate Donkey Suction fitted in Engine Room & size \_\_\_\_\_

the bilge suction pipes fitted with roses \_\_\_\_\_ Are the roses in Engine room always accessible \_\_\_\_\_

connections with the sea direct on the skin of the ship \_\_\_\_\_ Are they Valves or Cocks \_\_\_\_\_

fixed sufficiently high on the ship's side to be seen without lifting the stokehold plates \_\_\_\_\_ Are the Discharge Pipes above or below the deep water line \_\_\_\_\_

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 \_\_\_\_\_

pipes are carried through the bunkers \_\_\_\_\_ How are they protected \_\_\_\_\_

Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times \_\_\_\_\_

Bilge Suction Pipes, Cocks, and Valves arranged so as to prevent any communication between the sea and the bilges \_\_\_\_\_

Screw Shaft Tunnel watertight \_\_\_\_\_ Is it fitted with a watertight door \_\_\_\_\_ worked from \_\_\_\_\_

ERS, &c. — (Latter for record) \_\_\_\_\_ Manufacturers of Steel \_\_\_\_\_

Heating Surface of Boilers \_\_\_\_\_ Is Forced Draft fitted \_\_\_\_\_ No. and Description of Boilers \_\_\_\_\_

ing Pressure \_\_\_\_\_ Tested by hydraulic pressure to \_\_\_\_\_ Date of test \_\_\_\_\_ No. of Certificate \_\_\_\_\_

ch boiler be worked separately \_\_\_\_\_ Area of fire grate in each boiler \_\_\_\_\_ No. and Description of Safety Valves to \_\_\_\_\_

iler \_\_\_\_\_ Area of each valve \_\_\_\_\_ Pressure to which they are adjusted \_\_\_\_\_ Are they fitted with easing gear \_\_\_\_\_

st distance between boilers or uptakes and bunkers or woodwork \_\_\_\_\_ Mean dia. of boilers \_\_\_\_\_ Length \_\_\_\_\_ Material of shell plates \_\_\_\_\_

ness \_\_\_\_\_ Range of tensile strength \_\_\_\_\_ Are the shell plates welded or flanged \_\_\_\_\_ Descrip. of riveting: cir. seams \_\_\_\_\_

seams \_\_\_\_\_ Diameter of rivet holes in long. seams \_\_\_\_\_ Pitch of rivets \_\_\_\_\_ Lap of plates or width of butt straps \_\_\_\_\_

antages of strength of longitudinal joint \_\_\_\_\_ Working pressure of shell by rules \_\_\_\_\_ Size of manhole in shell \_\_\_\_\_

compensating ring \_\_\_\_\_ No. and Description of Furnaces in each Boiler \_\_\_\_\_ Material \_\_\_\_\_ Outside diameter \_\_\_\_\_

of plain part \_\_\_\_\_ Thickness of plates \_\_\_\_\_ Description of longitudinal joint \_\_\_\_\_ No. of strengthening rings \_\_\_\_\_

ing pressure of furnace by the rules \_\_\_\_\_ Combustion chamber plates: Material \_\_\_\_\_ Thickness: Sides \_\_\_\_\_ Back \_\_\_\_\_ Top \_\_\_\_\_ Bottom \_\_\_\_\_

of stays to ditto: Sides \_\_\_\_\_ Back \_\_\_\_\_ Top \_\_\_\_\_ If stays are fitted with nuts or riveted heads \_\_\_\_\_ Working pressure by rules \_\_\_\_\_

ial of stays \_\_\_\_\_ Diameter at smallest part \_\_\_\_\_ Area supported by each stay \_\_\_\_\_ Working pressure by rules \_\_\_\_\_ End plates in steam space \_\_\_\_\_

ial \_\_\_\_\_ Thickness \_\_\_\_\_ Pitch of stays \_\_\_\_\_ How are stays secured \_\_\_\_\_ Working pressure by rules \_\_\_\_\_ Material of stays \_\_\_\_\_

ter at smallest part \_\_\_\_\_ Area supported by each stay \_\_\_\_\_ Working pressure by rules \_\_\_\_\_ Material of Front plates at bottom \_\_\_\_\_

ness \_\_\_\_\_ Material of Lower back plate \_\_\_\_\_ Thickness \_\_\_\_\_ Greatest pitch of stays \_\_\_\_\_ Working pressure of plate by rules \_\_\_\_\_

ter of tubes \_\_\_\_\_ Pitch of tubes \_\_\_\_\_ Material of tube plates \_\_\_\_\_ Thickness: Front \_\_\_\_\_ Back \_\_\_\_\_ Mean pitch of stays \_\_\_\_\_

across wide water spaces \_\_\_\_\_ Working pressures by rules \_\_\_\_\_ Girders to Chamber tops: Material \_\_\_\_\_ Depth and \_\_\_\_\_

ness of girder at centre \_\_\_\_\_ Length as per rule \_\_\_\_\_ Distance apart \_\_\_\_\_ Number and pitch of stays in each \_\_\_\_\_

ing pressure by rules \_\_\_\_\_ Steam dome: description of joint to shell \_\_\_\_\_ % of strength of joint \_\_\_\_\_ Diameter \_\_\_\_\_

ness of shell plates \_\_\_\_\_ Material \_\_\_\_\_ Description of longitudinal joint \_\_\_\_\_ Diameter of rivet holes \_\_\_\_\_ Pitch of rivets \_\_\_\_\_

ing pressure of shell by rules \_\_\_\_\_ Crown plates: Thickness \_\_\_\_\_ How stayed \_\_\_\_\_

**SUPERHEATER.** Type \_\_\_\_\_ Date of Approval of Plan \_\_\_\_\_ Tested by Hydraulic Pressure to \_\_\_\_\_  
 Date of Test \_\_\_\_\_ Is a Safety Valve fitted to each Section of the Superheater which can be shut off from the Boiler \_\_\_\_\_  
 Diameter of Safety Valve \_\_\_\_\_ Pressure to which each is adjusted \_\_\_\_\_ Is Easing Gear fitted \_\_\_\_\_

IS A DONKEY BOILER FITTED? \_\_\_\_\_ If so, is a report now forwarded? \_\_\_\_\_

**SPARE GEAR.** State the articles supplied:— 3 turbine bearings axial thrust pads Pinion bearings  
 each one, Gear bearing, 10 coupling bolts, 2 set collar packing for each turbine  
 bolts, studs & nuts for turbine & gear cases cleaning the pinion the thrust collar  
 17 thrust shoes.

The foregoing is a correct description,

De Laval Steam Turbine Co  
 C. Swales & Co,

Manufacturer.

Dates of Survey while building: During progress of work in shops -- Feb 2 to 14 25, 25 Mar 2-20 April 2-26 May 1-17 June 14-19 July 9  
 During erection on board vessel ---  
 Total No. of visits \_\_\_\_\_

Is the approved plan of main boiler forwarded herewith \_\_\_\_\_

Dates of Examination of principal parts—Casings	Rotors	Blading	Getring
Rotor shaft	Thrust shaft	Tunnel shafts	Screw shaft
Stern tube	Steam pipes tested	Engine and boiler seatings	Engines holding down bolts
Completion of pumping arrangements	Boilers fixed	Engines trial under steam	
Main boiler safety valves adjusted	Thickness of adjusting washers		
Material and tensile strength of Rotor shaft	Nickel Steel HP 90000 lbs	Identification Mark on Do.	2450WB LP 2919IS
Material and tensile strength of Pinion shaft	Nickel steel both 111 000 lbs	Identification Mark on Do.	236 W.B.
Material of Wheel shaft	Steel	Identification Mark on Do.	240 WB
Material of Thrust shaft		Identification Mark on Do.	
Material of Tunnel shafts		Identification Marks on Do.	
Material of Screw shafts		Identification Marks on Do.	
Material of Steam Pipes		Test pressure	

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 Section 49 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.)

This machinery has been built under special survey, the materials & workmanship are of good quality. It has been built to the order of the Pucknuch SS Coy and shipped to the Dependable Warehouse Bull Ferry for storage.

The amount of Entry Fee	£	When applied for,
Special	£ 100	14 Jan 1924
Donkey Boiler Fee	£	When received,
Travelling Expenses (if any)	£ 100	20 Jan 1924

William Bates

Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute

Assigned: see minute on BLP N. 3395