

REC'D NEW YORK MAR 14 1921

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No. 401991

4a.

REPORT ON MACHINERY.

of writing Report 19 When handed in at Local Office 19 Port of Philadelphia & New York
in Survey held Yonkers N.Y. Date, First Survey May 14th Last Survey 19
Book. D. S. Herbert L. Pratt (Number of Visits)
24 on the W. Muller Built at Alameda By whom built Bethlehem S.B. Corp. Tons { Gross 7145
Net 5372
When built 1918
When made at Yonkers N.Y. By whom made DeLaval Steam Turbine Coy when made 1920
When made at San Francisco Cal. By whom made Union Iron Works when made 1918
Registered Horse Power 763 Owners The Atlantic Refining Coy Port belonging to Philadelphia
Horse Power at Full Power 3300 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes

BINE ENGINES, &c.—Description of Engines Double reduction geared turbines No. of Turbines Two
Diameter of Rotor Shaft Journals, H.P. 6" L.P. 6" Diameter of Pinion Shaft 1st red 6" 2nd red 10"
Diameter of Journals 1st red 6" 2nd red 10" Distance between Centres of Bearings 1st red 21 3/4" 2nd red 36 3/4" Diameter of Pitch Circle 1st red 6.8" 2nd red 11.221"
Diameter of Wheel Shaft 1st red 10" 2nd red 16" Distance between Centres of Bearings 1st red 48 3/4" 2nd red 83 3/4" Diameter of Pitch Circle of Wheel 1st red 26.6" 2nd red 43.498"
Diameter of Face 1st red 26 3/4" 2nd red 48" Diameter of Thrust Shaft under Collars 14 3/4" Diameter of Tunnel Shaft as per rule 13.95"
Diameter of same as fitted 14.95" Diameter of Propeller 17'-0" Pitch of Propeller 14'-3"
Blades 4 State whether Moveable Yes Total Surface 8500 projected 7600 Diameter of Rotor Drum, H.P. L.P. astern
Revs. per Minute at Full Power, Turbine 3130 Propeller 90

H. P.				L. P.				ASTERN.			
EXPANSION	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.
	1.50 to 1.320	28.569	2	1.470	41.260	1	2.058 to 2.446	36.041		2.058 to 2.446	34.205
"	1.488	30.110	1	1.470	41.260	1					
"	1.488	30.110	1	2.450	42.220	1					
"	1.488	30.444	1	4.000	43.450	1					
"	1.180	30.836	1	5.510	45.000	1					
"	1.460	31.240	1	5.510 to 6.200	45.020	1					
"	1.440	31.960	1								
"	2.166	32.616	1								

and size of Feed pumps
and size of Bilge pumps
and size of Bilge suction in Engine Room
In Holds, &c.

Bilge Injections sizes Connected to condenser, or to circulating pump Is a separate Donkey Suction fitted in Engine Room & size
all the bilge suction pipes fitted with roses Are the roses in Engine room always accessible
all connections with the sea direct on the skin of the ship Are they Valves or Cocks
they 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
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
pipes are carried through the bunkers How are they protected
all Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times
the 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

CLERS, &c.—(Letter for record) Manufacturers of Steel
Heating Surface of Boilers Is Forced Draft fitted No. and Description of Boilers
Working Pressure Tested by hydraulic pressure to Date of test No. of Certificate
each boiler be worked separately Area of fire grate in each boiler No. and Description of Safety Valves to
boiler Area of each valve Pressure to which they are adjusted Are they fitted with easing gear
least 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
entages of strength of longitudinal joint rivets Working pressure of shell by rules Size of manhole in shell plates
of compensating ring No. and Description of Furnaces in each Boiler Material Outside diameter
h of plain part top crown Thickness of plates Description of longitudinal joint No. of strengthening rings bottom bottom
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
rial of stays Diameter at smallest part Area supported by each stay Working pressure by rules End plates in steam space
rial Thickness Pitch of stays How are stays secured Working pressure by rules Material of stays
eter 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
eter 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:—Two HP & Two LP Turbine bearings. Two turbine thrust bearings. Four high speed & Two low speed gear bearings. Four high speed & Four low speed outer pinion bearings. Two high speed & Two low speed centre pinion bearings. Two high speed pinions one complete set carbon packing for turbines. Twenty high & Twenty low speed coupling bolts with washers. Bolts studs nuts as required by the Rules.

The foregoing is a correct description,

DeLond Steam Turbine Co.

Manufacturer.

by L. A. Waller & Co.

Dates of Survey while building { During progress of work in shops -- May 17, 21 June 4, 9, 25 July 9-16, 26 Aug 3, 12, 20 Sep 11, 14, 21 Oct 5, 12, 19, 24. During erection on board vessel -- 16. Total No. of visits 16.

Is the approved plan of main boiler forwarded herewith _____

Dates of Examination of principal parts—Casings 20-8-20. Rotors 9-4-20. Blading 21-9-20. Gearing 5-10-20.

Rotor shaft 11-9-20 Thrust shaft 30-3-21 Tunnel shafts _____ Screw shaft _____ Propeller _____

Stern tube _____ Steam pipes tested 10-5-21 Engine and boiler seatings 20-4-21 Engines holding down bolts 14-5-21.

Completion of pumping arrangements _____ Boilers fired _____ Engines tried under steam 16-5-21

Main boiler safety valves adjusted _____ Thickness of adjusting washers _____

Material and tensile strength of Rotor shafts Nickel steel 49,600 lbs. 2" 2nd red 49,600 lbs. 2" Identification Mark on Do. 21-9-20 W.B. 21-9-20 W.B.

Material and tensile strength of Pinion shafts Nickel steel 94,000 lbs. 2" 2nd red 94,000 lbs. 2" Identification Mark on Do. 21-9-20 W.B. 21-9-20 W.B.

Material of Wheel shafts Steel Identification Mark on Do. 21-9-20 W.B. 21-9-20 W.B. Material of Thrust shaft O.H.S. Identification Mark on Do. 21-9-20 W.B. 21-9-20 W.B.

Material of Tunnel shafts _____ Identification Marks on Do. _____ Material of Screw shafts _____ Identification Marks on Do. _____

Material of Steam Pipes Steel Lap welded. Test pressure 150 lbs. 2"

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 Section 49 of the Rules been complied with _____

Is this machinery a duplicate of a previous case Yes If so, state name of vessel J. E. O'Neill.

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

This machinery has been built under special survey. Materials & workmanship good. Ship running to satisfaction. This machinery has been installed on board the vessel in a satisfactory manner. The material & workmanship employed in the installing of same, so far as can be seen, are sound & good & proved satisfactory under test. The machinery is eligible in my opinion to the notation in the Register Book. + L.M.C. 5-21 fitted for oil fuel.

The amount of Entry Fee ... £ : When applied for, 19%
Special ... £ 90.00 :
Donkey Boiler Fee ... £ : When received, 19%
Travelling Expenses (if any) £ 10.00 :

William Dutton J. Flockhart.
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute New York MAY 31 1921

Assigned

M.S.
+ L.M.C. 5.21
+ N.E. 5.21



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