

REPORT ON MACHINERY.

No. 4110

Date of writing Report

19

When handed in at Local Office

9-2-21

Port of

Received at London Office

THU. 3 MAR. 1921

No. in Survey held at
Reg. Book.

Wilmington Del

Date, First Survey Aug 5th 1920, Last Survey Feb 12th 1921

(Number of Visits 28.)

1921

on the S S "ALBERT E. WATTS."

Master T.A. Hillgrove. Built at Wilmington Del By whom built Bethlehem S. B. Corp. Lea

Engines made at Wilmington Del By whom made Bethlehem S. B. Corp. Lea

Boilers made at " " By whom made " "

when made 1920

when made " "

Registered Horse Power

Owners Sinclair Navigation Co.

Port belonging to New York.

Nom. Horse Power as per Section 28 586

Is Refrigerating Machinery fitted for cargo purposes NO

Is Electric Light fitted Yes

ENGINES, &c.—Description of Engines

Triple Expansion

No. of Cylinders 3

No. of Cranks 3

Dia. of Cylinders 26 1/2 - 44 - 44

Length of Stroke 51

Revs. per minute 40

Dia. of Screw shaft

as per rule 15.15

Material of screw shaft

Steel

Is the screw shaft fitted with a continuous liner the whole length of the stern tube Yes

Is the after end of the liner made water tight

In the propeller boss Yes. If the liner is in more than one length are the joints burned

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

Length of stern bush 5'-2"

Dia. of Tunnel shaft as per rule 14 1/2

as fitted 14 1/2

Dia. of Crank shaft journals as per rule 14 1/2

as fitted 14 1/2

Dia. of Crank pin 14 1/2

Size of Crank webs 28 1/2 x 10

Dia. of thrust shaft under

Collars 14 1/2

Dia. of screw 18'-0"

Pitch of Screw 14'-1"

No. of Blades 4

State whether moveable Yes

Total surface 95 sq

WEIRS

No. of Feed pumps 2

Diameter of ditto 10 1/2 - 8

Stroke 24

Can one be overhauled while the other is at work Yes

No. of Bilge pumps 2

Diameter of ditto 5 1/2

Stroke 24

Can one be overhauled while the other is at work Yes

No. of Donkey Engines 4

Sizes of Pumps 6 x 5 1/2 x 6 = 2.14 x 10 1/2 x 12.14 x 6 x 10

No. and size of Suctions connected to both Bilge and Donkey pumps

In Engine Room 2 1/2 - 3 1/2

Boiler room 2 - 3 1/2

In Holds, &c. 7 or 8

Lower deck hold 2 - 3 1/2

Dry cofferdams, each 2 - 3 1/2

Pump room 2 - 3 1/2

No. of Bilge Injections 1

sizes 10

Connected to condenser, or circulating pump Yes

Is a separate Donkey Suction fitted in Engine room & size Yes - 3 1/2

Are all the bilge suction pipes fitted with roses Yes

Are the roses in Engine room always accessible Yes

Are the sluices on Engine room bulkheads always accessible Yes

Are all connections with the sea direct on the skin of the ship Yes

Are they Valves or Cocks Both

Are they fixed sufficiently high on the ship's side to be seen without lifting the stokehold plates Yes

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

That pipes are carried through the bunkers Dry cofferdams

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

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

the Screw Shaft Tunnel watertight

Is it fitted with a watertight door

worked from

BOILERS, &c.—(Letter for record S)

Manufacturers of Steel Lukens S T & Co

Total Heating Surface of Boilers 8829 sq

Is Forced Draft fitted Yes

No. and Description of Boilers 3 SE Scotch

Working Pressure 190 lbs

Tested by hydraulic pressure to 300 lb

Date of test 30-9-20

No. of Certificate 488

Can each boiler be worked separately Yes

Area of fire grate in each boiler 6 sq

No. and Description of Safety Valves to

Each boiler 2 Spring Loaded

Area of each valve 9 sq

Pressure to which they are adjusted 190

Are they fitted with easing gear Yes

Smallest distance between boilers or uptakes and bunkers or woodwork 4'-0"

Mean dia. of boilers 15'-0"

Length 11'-9"

Material of shell plates Steel

Thickness 1 1/16"

Range of tensile strength 60 to 71680

Are the shell plates welded or flanged NO

Descrip. of riveting: cir. seams DR Lap

g. seams TR DBS

Diameter of rivet holes in long. seams 1 1/16"

Pitch of rivets 8"

Lap of plates or width of butt straps 21"

Percentages of strength of longitudinal joint

rivets 96.5%

Working pressure of shell by rules 220

Size of manhole in shell 12' x 16'

No. of compensating rings 35 1/2 x 31 1/2 x 1 1/16"

No. and Description of Furnaces in each boiler 3 Longitudinal

Material Steel

Outside diameter 4'-0"

Length of plain part top

bottom

Thickness of plates crown 5/8"

Description of longitudinal joint Weld

Working pressure of furnace by the rules 209

Combustion chamber plates: Material Steel

Thickness: Sides 3/32"

Back 1/16"

Pitch of stays to ditto: Sides 7' x 7' 1/2"

Back 7' x 7' 1/2"

Top 7' x 7' 1/2"

If stays are fitted with nuts or riveted heads milled list

Material of stays Steel

Area at smallest part 1.44 sq

Area supported by each stay 54.39 sq

Working pressure by rules 226

Material Steel

Thickness 1 1/8"

Pitch of stays 16' x 16' 1/4"

How are stays secured D. Nuts

Area at smallest part 6.49 sq

Area supported by each stay 280 sq

Working pressure by rules 240

Material of Front plates at bottom Steel

Thickness 3/4"

Material of Lower back plate Steel

Thickness 3/4"

Greatest pitch of stays 15'

Diameter of tubes 2 1/8"

Pitch of tubes 3 1/8' x 3 1/8'

Material of tube plates Steel

Thickness: Front 1/4' x 1/4' Back 3/4"

Pitch across wide water spaces 13'

Working pressures by rules 212

Girders to Chamber tops: Material Steel

Depth and

Thickness of girder at centre 10' x 1 1/2"

Length as per rule 34'

Distance apart 7 1/2'

Number and pitch of stays in each 4 - 7'

Working pressure by rules 247

Steam dome: description of joint to shell

% of strength of joint

Diameter

Thickness of shell plates

Material

Description of longitudinal joint

Pitch of rivets

Working pressure of shell by rules

Crown plates

Thickness

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

Pressure to which each is adjusted

Is Easing Gear fitted

Diameter of Safety Valve

Pressure to which each is adjusted

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Pressure to which each is adjusted

Is Easing Gear fitted

IS A DONKEY BOILER FITTED? No ✓

If so, is a report now forwarded? ✓

SPARE GEAR. State the articles supplied:—Two connecting rods, Top and bottom end bearings, with bolts and nuts complete. 1 Propeller shafts. 2 Propeller blades. 1 Eccentric. 1 set of rings and springs for each piston. 1 set of valves for Feed, bilge and general service pumps. 1 Spare spring of each size used. 1 set of main coupling bolts. Assorted bolts and nuts. Iron of various sizes. ✓

? 2 Main bearing bolts

The foregoing is a correct description,

Bathlehem S B Co. (Harlan Plant)

CBSerrain

Manufacturer.

Dates of Survey while building { During progress of work in shops -- Aug 5-28 Sept. 27-30. Oct 6-7-14-28 Nov. 11-15-23-29. Dec 1-22. Jan 19²¹ 3-14. = 15.
During erection on board vessel --- Nov 11-15-23-29. Dec 1-22. Jan 19²¹ 3-14-21-23-26-29 Feb 1. = 13
Total No. of visits 28.

Is the approved plan of main boiler forwarded herewith yes ✓
" " " donkey " " " ✓

Dates of Examination of principal parts—Cylinders 1-12-20. Slides 29-11-20. Covers 29-11-20. Pistons 15-11-20. Rods 11-11-20. Connecting rods 27-9-20. Crank shaft 14-1-21. Thrust shaft 22-12-20. Tunnel shafts 21-1-20. Screw shaft 27-9-20. Propeller 22-12-20. Stern tube 22-12-20. Steam pipes tested 23-1-21. Engine and boiler seatings 22-12-20. Engines holding down bolts 21-1-21. Completion of pumping arrangements 26-1-21. Boilers fixed 3-1-21. Engines tried under steam 29-1-20. Completion of fitting sea connections 22-12-20. Stern tube 22-12-20. Screw shaft and propeller 22-12-20. Main boiler safety valves adjusted 26-1-20. Thickness of adjusting washers Check nuts.

Material of Crank shaft S Identification Mark on Do. 4648. Material of Thrust shaft S Identification Mark on Do. 1659. Material of Tunnel shafts S Identification Marks on Do. 1659. Material of Screw shafts S Identification Marks on Do. 6361. Material of Steam Pipes Solid drawn steel. ✓ Test pressure 600. ✓

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 yes. ✓

Is this machinery duplicate of a previous case yes ✓ If so, state name of vessel "Eugene V.R. Thayer". ✓

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

The machinery has been built under special survey in accordance with the approved plans. The materials and workmanship are good. The machinery has been securely fitted on board the vessel, and tried under full power with satisfactory results.

In my opinion, this vessel is eligible for record of + L M C 2-21. with notation 'Fitted for Oil Fuel. Flash point above 150°F. in the Register Book.

It is submitted that this vessel is eligible for THE RECORD.

+ L M C 2. 21. F.D. CL. Fitted for oil fuel 2. 21. F.P. above 150°F

The amount of Entry Fee ... £ 15.00 : When applied for, 19
Special ... £ 241.50. :
Donkey Boiler Fee ... £ : When received, 19
Travelling Expenses (if any) £ 40. : 5/4/21

Committee's Minute New York FEB 15 1921

Assigned

+ L. M. C. 2 21



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