

REPORT ON MACHINERY.

No. 2156.

Received at London Office

SAT. APR. 10. 1915

Date of writing Report 24th Mar. 15 When handed in at Local Office

Port of

SAN FRANCISCO,

No. in Survey held at San Francisco, California. Reg. Book.

Date, First Survey April 22nd/14

Ldst Survey

March 3rd 19 15

(Number of Visits 40)

on the Steel Screw Steamer "J.A. MOFFETT".

Tons { Gross 6521
Net 4012

Master G.E. Bridgett.

Built at

San Francisco.

By whom built

Union Iron Works Co.

When built 1915

Engines made at San Francisco,

By whom made Union Iron Works Company.

when made 1915

Boilers made at San Francisco,

By whom made Union Iron Works Company.

when made 1915

Registered Horse Power 540

Owners Standard Oil Co. of California.

Port belonging to San Francisco.

Nom. Horse Power as per Section 28 540.

Is Refrigerating Machinery fitted for cargo purposes -

Is Electric Light fitted yes.

ENGINES, &c.—Description of Engines Vertical Quadruple Expansion

No. of Cylinders four

No. of Cranks four

Dia. of Cylinders 23-32 $\frac{1}{2}$ -49-71 $\frac{1}{2}$

Length of Stroke 51

Revs. per minute

Dia. of Screw shaft

as per rule 14.57

Material of

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 yes

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 yes

If two

liners are fitted, is the shaft lapped or protected between the liners -

Length of stern bush 60"

Dia. of Tunnel shaft

as per rule 13.05

Dia. of Crank shaft journals

as per rule 13.7

Dia. of Crank pin 14

Size of Crank web 9 $\frac{1}{8}$ x26

Dia. of thrust shaft under

collars 14 $\frac{1}{2}$

Dia. of screw 18"

Pitch of Screw 15.75

No. of Blades 4

State whether moveable yes

Total surface 94.61

No. of Feed pumps 2-3

Diameter of ditto -

Stroke -

Can one be overhauled while the other is at work yes

No. of Bilge pumps 2

Diameter of ditto 12x8x12

Stroke -

Can one be overhauled while the other is at work yes

No. of Donkey Engines 1-for^d

Bilge Pump 10x10x12.

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

In Engine Room 8-3 $\frac{1}{2}$ "

In Holds, &c. 1-4" in FP. 2-6" in F. Hold; 2-2" in Pump Rm;

2-2 $\frac{1}{2}$ " in C'dam.; 2-3 $\frac{1}{2}$ " Pump Rm. D.B. 1-4" in A.P.; 2-3 $\frac{1}{2}$ " Blr. R. Tank; 2-3 $\frac{1}{2}$ " to E.R. tank.

No. of Bilge Injections 1

size 8"

Connected to condenser, or to circulating pump Cir. Pump

separate Donkey Suction fitted in Engine room & size 1-5"

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 -

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

Are they 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 Discharge Pipes above or below the deep water line above

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 are carried through the bunkers none

How are they protected -

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

Dates of examination of completion of fitting of Sea Connections Nov. 17/14

of Stern Tube Oct. 29/14

Screw shaft and Propeller Nov. 17/14

Is the Screw Shaft Tunnel watertight -

Is it fitted with a watertight door -

worked from -

BOILERS, &c.—(Letter for record (7))

Manufacturers of Steel Worth Bros. Co.

Total Heating Surface of Boilers 9525 sq. ft.

Is Forced Draft fitted no

No. and Description of Boilers 3-s.e. Scotch. multitubular.

Working Pressure 220

Tested by hydraulic pressure to 330

Date of test Nov. 27, Dec 3

No. of Certificate 6-8

Can each boiler be worked separately yes

Area of fire grate in each boiler none

No. and Description of Safety Valves to

each boiler 2-spring loaded

Area of each valve 12.6

Pressure to which they are adjusted 220

Are they fitted with easing gear yes

Smallest distance between boilers or uptakes and bunkers or woodwork -

Mean dia. of boilers 14'10 $\frac{5}{8}$ " length 12'1" Material of shell plates steelThickness 1 $\frac{5}{8}$ "

Range of tensile strength 28-32

Are the shell plates welded or flanged no

Descrip. of riveting: cir. seams d.r. lap

long. seams t.r. butt

Diameter of rivet holes in long. seams 1 $\frac{5}{8}$ "

Pitch of rivets 10"

Lap of plates or width of butt straps 23"

Per centages of strength of longitudinal joint

rivets 94.86

Working pressure of shell by rules 245

Size of manhole in shell 12x16

Size of compensating ring 24x28

No. and Description of Furnaces in each boiler 3-Morrison

Material steel

Outside diameter 48 $\frac{1}{8}$ "

Length of plain part

top -

bottom -

Thickness of plates

crown 11 $\frac{1}{16}$ "

Description of longitudinal joint -

Welded

No. of strengthening rings -

Working pressure of furnace by the rules 235

Combustion chamber plates: Material steel

Thickness: Sides 45 $\frac{5}{64}$ "Back 45 $\frac{5}{64}$ "Top 45 $\frac{5}{64}$ "

Bottom 1"

Pitch of stays to ditto: Sides 7x8

Back 7x8

Top 7x8

If stays are fitted with nuts or riveted heads riv. hds.

Working pressure by rules 224

Material of stays Nor. Iron

Area at smallest part 1.76

Area supported by each stay 56 sq in

Working pressure by rules 282

End plates in steam space:

Material steel

Thickness 1 $\frac{1}{4}$ "Pitch of stays 16 $\frac{3}{4}$ x17 $\frac{1}{2}$

How are stays secured d. nuts.

Working pressure by rules 243

Material of stays steel

Diameter at smallest part 3 $\frac{1}{2}$ "

Area supported by each stay 286.5

Working pressure by rules 300

Material of Front plates at bottom steel

Thickness 15 $\frac{1}{16}$ "

Material of Lower back plate steel

Thickness 13 $\frac{1}{16}$ "

Greatest pitch of stays 13"x8"

Working pressure of plate by rules 400

Diameter of tubes 2 $\frac{1}{2}$ "Pitch of tubes 3 $\frac{1}{2}$ "

Material of tube plates steel

Thickness: Front 15 $\frac{1}{16}$ "Back 7 $\frac{1}{8}$ "Mean pitch of stays 8 $\frac{3}{4}$ "

Pitch across wide water spaces 13

Working pressures by rules 225

Girders to Chamber tops: Material steel

Depth and

thickness of girder at centre 12x1 $\frac{1}{2}$

Length as per rule 35"

Distance apart 8"

Number and pitch of stays in each 4-7"

Working pressure by rules 326

Superheater or Steam chest; how connected to boiler none

Can the superheater be shut off and the boiler worked

separately -

Diameter -

Length -

Thickness of shell plates -

Material -

Description of longitudinal joint -

Diam. of rivet

holes -

Pitch of rivets -

Working pressure of shell by rules -

Diameter of flue -

Material of flue plates -

Thickness -

If stiffened with rings -

Distance between rings -

Working pressure by rules -

End plates: Thickness -

How stayed -

Working pressure of end plates -

Area of safety valves to superheater -

Are they fitted with easing gear -

W1212-0173

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Foundation

IS A DONKEY BOILER FITTED? ☒ no

If so, is a report now forwarded?

SPARE GEAR. State the articles supplied:— 1-section crank shaft. 1-tail shaft complete, nut feather & line
2-bronze propeller blades. 1-L.P. piston rod. 1-H.P. piston rod. 4-main bearing bolts & nuts.
4-connecting rod bottom end bolts and nuts. 8-crosshead bolts and nuts. 24-follower studs and nuts.
24-cylinder and valve cover studs and nuts. 1-H.P. valve stem complete. 1-L.P. valve stem complete.
3-main bearing brasses. 2-crank pin brasses. 2-sets crosshead brasses. 9-coupling bolts (2 sizes
fitted to work. Assorted bolts and nuts and iron. *1 set bulge pump valves*
see S. 750. ltv. 29.4.15

The foregoing is a correct description,

UNION IRON WORKS COMPANY,

By *W. J. James*

Manufacturer.

Dates of Survey while building { During progress of work in shops - - } April 22, 24, 28, 30; May 8, 12, 25; June 5, 23; July 6, 15, 17, 20; Aug. 3, 12, 17, 19, 25, 28, 31; Sept. 14, 17, 28; Oct. 29; Nov. 5, 17, 27; Dec. 2, 4.
{ During erection on board vessel - - - } Dec. 8, 16, 18; Jan 5, 9, 12, 16, 22; Feb. 2, 17; Mar 3.
Total No. of visits Forty (40).

Is the approved plan of main boiler forwarded herewith ☒ yes

" " " donkey " " " "

Dates of Examination of principal parts—Cylinders *Aug-28/14* Slides *July 17* Covers *July 20* Pistons *June 23* Rods *Aug. 12*
Connecting rods *Aug 12* Crank shaft *Aug 3* Thrust shaft *Aug. 3* Tunnel shafts - Screw shaft *Aug. 3rd* Propeller *Aug 3rd*
Stern tube *Sept. 14th* Steam pipes tested *Feb. 17th* Engine and boiler seatings *Oct. 13th* Engines holding down bolts *Jan. 9/18*
Completion of pumping arrangements *Feb. 17th* Boilers fixed *Dec. 28th* Engines tried under steam *Mar. 3rd.*
Main boiler safety valves adjusted *Mar. 3/15* Thickness of adjusting washers *Lock Nuts.*

Material of Crank shaft *Steel* Identification Mark on Do. *T.G.D.* Material of Thrust shaft *steel* Identification Mark on Do. *1120 T.G.D.*
Material of Tunnel shafts - Identification Marks on Do. - Material of Screw shafts *steel* Identification Marks on Do. *1120 T.G.D.*
Material of Steam Pipes *steel* Test pressure *660 lbs.*

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 *S/S "RICHMOND", No. 459 in R.B.*

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

The Machinery and boilers of this vessel have been constructed under Special Survey, of materials tested in accordance with Rule requirements. Workmanship sound throughout. On completion Machinery was thoroughly tested under working conditions and worked satisfactorily in all respects. In the opinion of the undersigned this vessel is eligible to be classed in the Register Book with notation of *LMC 3-15 Fitted for Oil Fuel 3-15 F.P. above 150°F.*

It is submitted that this vessel is eligible for THE RECORD. + LMC 3. 15.

Fitted for oil fuel 3. 15. F.P. above 150°F.

A. R. R.

J. W. R.

13/4/15

The amount of Entry Fee ... £ 15.00 : When applied for, *Mar. 19. 19. 15*
Special ... £ 235.00 :
Donkey Boiler Fee ... £ :
Travelling Expenses (if any) £ 2.50 : When received, *15/4/15*

W. H. M. & J. Blackett
Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

Committee's Minute *FRI. APR. 16. 1915*

Assigned *+ Lmc 3. 15*
Fitted for oil fuel 3. 15. F.P. above 150°F.



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