

REPORT ON MACHINERY

No. 10965.

Received at London Office

FRI. 4 MAR 1921

Date of writing Report

10

When handed in at Local Office

2.3.21

Port of

MIDDLESBRO

No. in Survey held at
Reg. Book.

Stockton-on-Tees

Date, First Survey

8th Sept 1920

Last Survey

1st March 1921

on the

S/S 'CABO HUERTAS'

(S.S. No 19)

Gross
Tons
Net

Master

Built at Bilbao

By whom built

Soc Espanola de Construcion Naval

When built

Engines made at

Stockton

By whom made

Messrs Blair & Co Lim

(No 1946)

when made 1921

Boilers made at

Stockton

By whom made

Messrs Blair & Co Lim

when made 1921

Registered Horse Power

Owners

Port belonging to

Nom. Horse Power as per Section 28

253

Is Refrigerating Machinery fitted for cargo purposes

Is Electric Light fitted

ENGINES, &c.—Description of Engines

Tri-compound

No. of Cylinders

3

No. of Cranks

3

Dia. of Cylinders

22-36-59

Length of Stroke

39

Revs. per minute

Dia. of Screw shaft

as per rule 12.42

Material of

screw shaft

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 in on

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

tight fit

If two

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

yes

Length of stern bush

4'-8"

Dia. of Tunnel shaft

as per rule 10.856

as fitted 11 1/4

Dia. of Crank shaft journals

as per rule 11.4

as fitted 11 3/4

Dia. of Crank pin

12 1/4

Size of Crank webs

23 1/2 x 7 1/4

Dia. of thrust shaft under

collars

12 1/4

Dia. of screw

15'-6"

Pitch of Screw

15'-9"

No. of Blades

4

State whether moveable

no

Total surface

68 sq

No. of Feed pumps

2

Diameter of ditto

2 3/4"

Stroke

28"

Can one be overhauled while the other is at work

yes

No. of Bilge pumps

2

Diameter of ditto

4"

Stroke

28"

Can one be overhauled while the other is at work

yes

No. of Donkey Engines

2

Sizes of Pumps

Ballast 10" x 10"

Feed 5 x 8 Sully

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

In Engine Room

In Holds, &c.

No. of Bilge Injections

1

size 6"

Connected to condenser, or to circulating pump

Is a separate Donkey Suction fitted in Engine room & size

Are all the bilge suction pipes fitted with roses

Are the roses in Engine room always accessible

Are the sluices on Engine room bulkheads always accessible

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

Are they Valves or Cocks

Are 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

Are 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

What pipes are carried through the bunkers

How are they protected

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

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

Dates of examination of completion of fitting of Sea Connections

of Stern Tube

Screw shaft and Propeller

Is the Screw Shaft Tunnel watertight

Is it fitted with a watertight door

worked from

BOILERS, &c.—(Letter for record (S))

4120

Manufacturers of Steel

Messrs John Spencer & Sons

Total Heating Surface of Boilers

4120

Is Forced Draft fitted

no

No. and Description of Boilers

Two single ended

Working Pressure

180

Tested by hydraulic pressure to

360

Date of test

8.2.21

No. of Certificate

6204

Can each boiler be worked separately

yes

Area of fire grate in each boiler

60.2 sq

No. and Description of Safety Valves to

each boiler

2 direct spring

Area of each valve

7.07 sq

Pressure to which they are adjusted

Are they fitted with easing gear

Smallest distance between boilers or uptakes and bunkers or woodwork

External

Mean dia. of boilers

15'-3"

Length

10'-6"

Material of shell plates

steel

Thickness

1 1/2"

Range of tensile strength

28-32

Are the shell plates welded or flanged

no

Descrip. of riveting: cir. seams

2 R. lap

long. seams

2 B-3 Riv

Diameter of rivet holes in long. seams

1 1/4"

Pitch of rivets

8 1/2"

Top of plates or width of butt straps

18 1/2 x 1 1/2

Per centages of strength of longitudinal joint

rivets 86.4

plate 85.6

Working pressure of shell by rules

182

Size of manhole in shell

16" x 12"

Size of compensating ring

7 1/2 x 1 1/2

No. and Description of Furnaces in each boiler

3 Morrison

Material

steel

Outside diameter

47 1/2"

Length of plain part

top

bottom

Thickness of plates

crown 37

bottom 24

Description of longitudinal joint

weld

No. of strengthening rings

yes

Working pressure of furnace by the rules

192

Combustion chamber plates: Material

steel

Thickness: Sides

1/2"

Back

1/2"

Top

1/2"

Bottom

3/4"

Pitch of stays to ditto: Sides

9 x 9 1/2

Back

9 1/2 x 9 1/2

Top

10 x 8 1/2

If stays are fitted with nuts or riveted heads

nuts

Working pressure by rules

185

Material of stays

steel

Diameter at smallest part

1.99

Area supported by each stay

87.8

Working pressure by rules

204

End plates in steam space

Material

steel

Thickness

1 1/4"

Pitch of stays

18 1/2 x 20

How are stays secured

nuts & washers

Working pressure by rules

200

Material of stays

steel

Diameter at smallest part

7.24

Area supported by each stay

375

Working pressure by rules

201

Material of Front plates at bottom

steel

Thickness

1 1/2"

Material of Lower back plate

steel

Thickness

1"

Greatest pitch of stays

14 1/2 x 9 1/2

Working pressure of plate by rules

232

Diameter of tubes

3 1/2"

Pitch of tubes

4 3/4 x 4 3/8"

Material of tube plates

steel

Thickness: Front

1 1/2"

Back

1 1/2"

Mean pitch of stays

11 5/8"

Pitch across wide water spaces

14 1/2"

Working pressures by rules

191

Girders to Chamber tops: Material

steel

Depth and

thickness of girder at centre

7 3/4 x 1 1/2"

Length as per rule

28 1/2"

Distance apart

10"

Number and pitch of stays in each

2 x 8 3/4"

Working pressure by rules

189

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

Lloyd's Register

Foundation

002870-002875-0129

IS A DONKEY BOILER FITTED?

If so, is a report now forwarded?

SPARE GEAR. State the articles supplied:—

To be examined at - Bilbao

The foregoing is a correct description,

FOR BLAIR & Co., LIMITED,

Geo. Wattaschup

Manufacturer.

Dates of Survey while building

During progress of work in shops - -

During erection on board vessel - - -

Total No. of visits

1920. Sep 8, 17. Oct 7, 18, 20, 21, 22, 25. Nov 1, 3, 5, 8, 10, 12, 15, 19, 22, 23, 26, 29. Dec 2, 3, 6, 7, 8.
10, 13, 15, 16, 17, 20, 21, 22, 24, 29, 30, 31 - 1921. Jan 5, 7, 10, 12, 14, 18, 20, 21, 24, 26, 27, 31. Feb 3, 4, 8, 10, 11, 14, 16.
18, 21, 24. Mar 1.

62.

Is the approved plan of main boiler forwarded herewith yes
Return for duplicate Boiler
donkey " " " "

Dates of Examination of principal parts—Cylinders 18.1.21 Slides 24.1.21 Covers 18.1.21 Pistons 24.1.21 Rods 14.1.21

Connecting rods 4.2.21 Crank shaft 24.1.21 Thrust shaft 16.12.20 Tunnel shafts 10.9.20 Screw shaft 21.10.20 Propeller 21.10.20

Stern tube 20.10.20 Steam pipes tested Engine and boiler seatings Engines holding down bolts

Completion of pumping arrangements Boilers fixed Engines tried under steam

Main boiler safety valves adjusted Thickness of adjusting washers

Material of Crank shaft Eng Steel Identification Mark on Do. 7286 Material of Thrust shaft Eng Steel Identification Mark on Do. 5485-N

Material of Tunnel shafts Eng Steel Identification Marks on Do. 5485-N Material of Screw shafts Eng Steel Identification Marks on Do. 7286

Material of Steam Pipes Test pressure 540 psi see file 5/2/21

Is an installation fitted for burning oil fuel will be 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 duplicate of a previous case yes If so, state name of vessel Blair's Eng No 1945; Indt Rpt No 10910

General Remarks (State quality of workmanship, opinions as to class, &c. Evaporator cast iron shell and solid

drawn copper coils tested to 50 lbs & 400 lbs respectively & found good: Evap. marked No 164, 50 lbs, 24/2/21

These engines and boilers have been built under special survey. The materials & workmanship

are sound and good. The main boilers and oil fuel settling tanks were tested by hydraulic pressure

to 360 lbs & 15 lbs per square inch, respectively and found good. The engines, boilers & fittings

are to be forwarded to Bilbao where, it is stated, they will be fitted on board.

In my opinion the vessel will be eligible to have the notations of S.I.M.C. (with a date)

and "Fitted for oil fuel (with a date) F.P. above 150°F"; when the machinery has been satisfactorily

fitted on board in accordance with the Rules and examined under steam.

The amount of Entry Fee ...	£ 4 - 0 - 0	When applied for,
Special 4/5 th Indt	£ 50 - 7 - 3	3/3/1921
Donkey Boiler Fee ...	£ 12 - 11 - 9	
Travelling Expenses (if any) £		When received, 5/2/19

Wm Morrison
Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

TUE 15 AUG 1922

Committee's Minute

Assigned