

Rpt. 4.

REPORT ON MACHINERY

Nwe. No.

Last visit Newcastle 17 March 1922 received at London Office

IMPROVED 23 1922

Date of writing Report

19

When handed in at Local Office

22 FEB 1922

Port of

SUNDERLAND.

No. in Survey held at Reg. Book.

SUNDERLAND.

Date, First Survey 30th July 1920 Last Survey 17th February 1922

on the SS "PRADO"

"KAULDI"

(Number of Visits) 12

Gross 3181.66

Master

Built at Blyth

By whom built Messrs Blyth S B Co (221)

Tons Net 1895.81

Engines made at Sunderland

By whom made Messrs G Clark & Co (1118)

When made 1922

Boilers made at Sunderland

By whom made Messrs G Clark & Co (1118)

when made 1922

Registered Horse Power

Owners Compania Naviera Basco

Port belonging to Bilbao

Nom. Horse Power as per Section 28 365

Is Refrigerating Machinery fitted for cargo purposes No

Is Electric Light fitted Yes

ENGINES, &c.—Description of Engines Triple

No. of Cylinders 3

No. of Cranks 3

Dia. of Cylinders 25", 41", 68"

Length of Stroke 45"

Revs. per minute 76

Dia. of Screw shaft as per rule 13.65

Material of screw shaft Iron

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

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

If two Length of stern bush 4'-10"

Dia. of Tunnel shaft as per rule 12.39

Dia. of Crank shaft journals as per rule 13.01

Dia. of Crank pin 13 1/4

Size of Crank webs 8 3/4 x 2 1/2

Dia. of thrust shaft under collars 13 1/4

Dia. of screw 16-3"

Pitch of Screw 17-0"

No. of Blades 4

State whether moveable No

Total surface 83 1/2

No. of Feed pumps 2

Diameter of ditto 3 1/2"

Stroke 24"

Can one be overhauled while the other is at work Yes

No. of Bilge pumps 2

Diameter of ditto 3 1/2"

Stroke 24"

Can one be overhauled while the other is at work Yes

No. of Donkey Engines 2

Sizes of Pumps 1 1/2 x 1 1/2 x 2 1/2, 9 1/2 x 7 x 1 1/2

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

In Engine Room 4 @ 3" - 1 @ 3 1/2" Direct

In Holds, &c. Chain Locker 1 @ 1 1/4" (Hand), 907 Hold

2 @ 3", No 2 Hold 2 @ 3", After Hold 1 @ 3 1/2" and 2 @ 3", Tunnel well 1 @ 2 1/2"

No. of Bilge Injections 1

sizes 7"

Connected to condenser to 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 None

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 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

Is the Screw Shaft Tunnel watertight Yes Is it fitted with a watertight door Yes worked from Upper Platform

BOILERS, &c.—(Letter for record 5)

Manufacturers of Steel Spencer & Sons

Total Heating Surface of Boilers 6030 1/2

Is Forced Draft fitted No

No. and Description of Boilers Three single End

Working Pressure 180 lbs

Tested by hydraulic pressure to 360 lbs

Date of test 15.2.21

No. of Certificate 3754

Can each boiler be worked separately Yes

Area of fire grate in each boiler 55.7 1/2

No. and Description of Safety Valves to each boiler Two Spring Valves

Area of each valve 7.07 1/2 Pressure to which they are adjusted 185 lbs

Are they fitted with easing gear Yes

Smallest distance between boilers or uptakes and bunkers or woodwork way Boilers Mean dia. of boilers 14-0

Length 11-6 Material of shell plates S

Thickness 1 1/8 Range of tensile strength 28-32 Are the shell plates welded or flanged No

Descrip. of riveting: cir. seams Lap dk

long. seams d. 1/2 cr. Riv. Diameter of rivet holes in long. seams 1 3/16

Pitch of rivets 8 1/2

Per centages of strength of longitudinal joint rivets 86 plate 86 Working pressure of shell by rules 182

Size of manhole in END 16 x 12

Size of compensating ring Flanged No. and Description of Furnaces in each boiler 3 Dighton

Material S Outside diameter 3'-7"

Length of plain part top 17" bottom 32" Thickness of plates crown 17" bottom 32"

Description of longitudinal joint Welded No. of strengthening rings

Working pressure of furnace by the rules 189 Combustion chamber plates: Material S

Thickness: Sides 13/16 Back 11/16 Top 13/16 Bottom 13/16

Pitch of stays to ditto: Sides 12 x 9 1/2 Back 9 3/4 x 8 1/2 Top 12 x 9

If stays are fitted with nuts or riveted heads nuts Working pressure by rules 194

Material of stays S Area at smallest part 2.36 1/2

Area supported by each stay 114 1/2 Working pressure by rules 186

End plates in steam space: Material S Thickness 1 1/32

Pitch of stays 22 x 17 3/4 How are stays secured d. u. w. Working pressure by rules 184

Material of stays S Area at smallest part 6.49 1/2

Area supported by each stay 370 1/2 Working pressure by rules 182

Material of Front plates at bottom S Thickness 13/16

Greatest pitch of stays 14 3/4 x 9 3/4 Working pressure of plate by rules 194

Diameter of tubes 3 3/4 Pitch of tubes 4 1/2 x 4 3/8

Material of tube plates S Thickness: Front 13/16 Back 3/4 Mean pitch of stays 8 1/2 x 11 1/4

Pitch across wide water spaces 14 1/4 dk Working pressures by rules 262

Girders to Chamber tops: Material S

Depth and thickness of girder at centre 8 5/8 x 1 3/4 Length as per rule 35 1/2

Distance apart 9' Number and pitch of stays in each 2, 12"

Working pressure by rules 184 Steam dome: description of joint to shell None

% of strength of joint

Diameter Thickness of shell plates Material Description of longitudinal joint Diam. of rivet holes

Pitch of rivets Working 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? **No.**

If so, is a report now forwarded?

SPARE GEAR. State the articles supplied:— *Two top end & two bottom end connecting rod bolts and nuts, two main bearing bolts, one set coupling bolts, one set feed and bilge pump valves assorted bolts and nuts, Iron of various sizes*

The foregoing is a correct description,

FOR GEORGE CLARK LIMITED

W. S. Spence

Manufacturer.

Dates of Survey while building	{	During progress of work in shops --	1920 July 30 Aug. 17 Sep. 14. 17 Oct. 6. 14. 20 Nov. 3. 5. 9. 15. 17. 22. 26 Dec. 17. 29. 1921 Jan. 6. 12. 14. 18
		During erection on board vessel ---	25 Feb. 1. 14. 15. 24. 27. 28. 29. Dec. 1. 8. 14. 19. 21. 1922 Jan. 6. 10. 18. 24. 27 Feb. 7. 13. 14. 16. 17
		Total No. of visits	44 + 12

Is the approved plan of main boiler forwarded herewith **YES.**

" " " donkey " " "

Dates of Examination of principal parts—Cylinders 19.12.21 Slides 4.1.22 Covers 4.1.22 Pistons 24.1.22 Rods 19.12.21

Connecting rods 14.12.21 Crank shaft 29.12.21 Thrust shaft 12.1.21 Tunnel shafts 12.1.21 Screw shaft 8.12.21 Propeller 8.12.21

Stern tube 18.1.22 Steam pipes tested 14.12.21 16.1.22 Engine and boiler seatings 7.2.22 Engines holding down bolts 13.2.22

Completion of pumping arrangements 13.2.22 Boilers fixed 13.2.22 Engines tried under steam 17.2.22

Completion of fitting sea connections 28 Jan. 1922. Stern tube 7.2.22 Screw shaft and propeller 7.2.22

Main boiler safety valves adjusted 17.2.22 Thickness of adjusting washers PTBL P 3/8 S 3/8 CENBL. P 7/8 S 7/8 STABL. P 3/4 S 3/4

Material of Crank shaft *Stul* Identification Mark on Do. *1118 GAH* Material of Thrust shaft *Stul* Identification Mark on Do. *1118 GAH*

Material of Tunnel shafts *Stul* Identification Marks on Do. *1118 GAH* Material of Screw shafts *Iron* Identification Marks on Do. *1118 GAH*

Material of Steam Pipes *Iron* Test pressure *540 lb sq*

Is an installation fitted for burning oil fuel **No** 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 *SS DELFINA*

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

The machinery of this vessel has been built under special survey. The materials & workmanship are sound and good and on completion of survey will render the vessel eligible in my opinion to have record of +L.M.C. with date 3.22.

The vessel has returned to the Builders yard and to complete survey.

The bilge sections in holds remain to be examined and the spare gear checked in accordance with surveyors advised.

The Bilge Piping arrangement has been completed in accordance with the approved plan.

The machinery spare gear has been checked and found in order.

*Alex. Lawson & Co.
Newcastle.
March 17, 1922*

To avoid confusion, the owners request that the name "Perado" be not shown in any documents

The amount of Entry Fee ...	£ 5 :	When applied for,
Special ...	£ 79 : 15 :	20 FEB 1922
Donkey Boiler Fee ...	£ :	When received,
Travelling Expenses (if any) £	:	15/3/22

G. A. H. H. K.
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute

TUE. MAR. 23 1922

Assigned

*L.M.C. 3.22
C.L.*

MACHINERY DEPT.
WRITTEN.



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Lloyd's Register
Foundation

SUNDERLAND

Certificate (if required) to be sent to
The Surveyors are requested not to write on or below the space for Committee's Minute.