

REPORT ON MACHINERY.

No. 75169

Received at London Office

JAN 31 1922

Date of writing Report

19

When handed in at Local Office

26/1/22 Port of

NEWCASTLE-ON-TYNE

Survey held at Newcastle-on-Tyne

Date, First Survey 11th Oct. /20 Last Survey 12th Jan'y 1922

(Number of Visits 25)

on the Steel S.S. EL GRILLO

Tons Gross 7267 7269 Net 4410 4414

Master Burdis Built at Newcastle

By whom built Armstrong Whitworth & Co. Ltd.

When built 1921

Engines made at Newcastle

By whom made Armstrong Whitworth & Co. Ltd.

when made 1922

Boilers made at Newcastle

By whom made Armstrong Whitworth & Co. Ltd.

when made 1922

Registered Horse Power

Owners Lobilos Oil Fields Ltd.

Port belonging to London

Net Horse Power as per Section 28 678

Is Refrigerating Machinery fitted for cargo purposes no.

Is Electric Light fitted Yes

GINES, &c.—Description of Engines Inverted Triple Expansion

No. of Cylinders 3

No. of Cranks 3

No. of Cylinders 29" - 48" - 81" Length of Stroke 54" Revs. per minute 73

Dia. of Screw shaft as per rule 16.83" Material of screw shaft as fitted 17 1/4" steel

Is the screw shaft fitted with a continuous liner the whole length of the stern tube no liner

Is the after end of the liner made water tight

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

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

Length of stern bush 70" Kerr's brand

Dia. of Tunnel shaft as per rule 14.6" as fitted

Dia. of Crank shaft journals as per rule 15.33" as fitted 15 3/4"

Dia. of Crank pin 15 3/4"

Size of Crank webs 24"x9 3/8" Dia. of thrust shaft under

arms 15 3/4" Dia. of screw 19.0" Pitch of Screw 17.9"

No. of Blades 4

State whether moveable Yes

Total surface 114 sq ft

No. of Feed pumps 2

Diameter of ditto 4 1/2"

Stroke 27"

Can one be overhauled while the other is at work Yes

No. of Bilge pumps 2

Diameter of ditto 4 1/2"

Stroke 27"

Can one be overhauled while the other is at work Yes

No. of Donkey Engines 5

Sizes of Pumps 2 General Service 7 1/2" - 4 1/2" - 6" 1 Duplex Ballast 15" - 12" - 12"

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

Engine Room Three - 3 1/2"

In Holds, &c. None

No. of Bilge Injections 1

size 12"

Connected to condenser, or to circulating pump Pump Is a separate Donkey Suction fitted in Engine room & size Yes 9"

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 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

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

How are the pipes at 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 None

Is it fitted with a watertight door worked from

MANUFACTURERS, &c.—(Letter for record Y)

Manufacturers of Steel J. Spencer & Sons Ltd.

Working Surface of Boilers 10065 sq ft

Is Forced Draft fitted Yes

No. and Description of Boilers 3 S.E. Multitubular

Working Pressure 180 lbs

Tested by hydraulic pressure to 320 lbs

Date of test 25.10.21 No. of Certificate 9618

Can each boiler be worked separately Yes

Area of fire grate in each boiler 82 sq ft

No. and Description of Safety Valves to boiler 2 Spring loaded

Area of each valve 14.18 sq ft

Pressure to which they are adjusted 185 lbs

Are they fitted with easing gear Yes

Least distance between boilers or uptakes and bunkers on woodwork 2'0"

Mean dia. of boilers 17'0"

Length 12'0" Material of shell plates Steel

Thickness 1 1/2"

Range of tensile strength 33/4 to 35"

Are the shell plates welded or flanged No

Descrip. of riveting: cir. seams D.R. Lap

seams T.R.-D.B.S.

Diameter of rivet holes in long. seams 1 3/8" Pitch of rivets 9 1/2"

Lap of plates or width of butt straps 20"

Percentages of strength of longitudinal joint

rivets 85.9 plate 85.1 Working pressure of shell by rules 186

Size of manhole in shell 20"x15"

No. and Description of Furnaces in each boiler 4 Deighton

Material Steel Outside diameter 45 3/4"

Thickness of plain part top 17" bottom 13 1/2"

Description of longitudinal joint weld

No. of strengthening rings

Working pressure of furnace by the rules 180

Combustion chamber plates: Material Steel

Thickness: Sides 9/16" Back 1/16" Top 9/16" Bottom 1"

No. of stays to ditto: Sides 8x7 1/2"

Back 10 1/8x9"

Top 8x7 1/2" If stays are fitted with nuts or riveted heads nuts Working pressure by rules 180

Material of stays Iron

Area at smallest part 1.45 sq ft

Area supported by each stay 600" Working pressure by rules 209

End plates in steam space: Material Steel

Thickness 1 5/16"

Pitch of stays 24 1/4"x18" How are stays secured D.N. + W Working pressure by rules 197

Material of Front plates at bottom Steel

Area at smallest part 7.06 sq ft

Area supported by each stay 425 sq ft Working pressure by rules 208

Material of Lower back plate Steel

Thickness 29"

Greatest pitch of stays 15" Working pressure of plate by rules 204

Diameter of tubes 2 1/2"

Pitch of tubes 3 3/4"

Material of tube plates Steel Thickness: Front 13/16" Back 23/32" Mean pitch of stays 11 1/4"

Working pressures by rules 189

Girders to Chamber tops: Material Steel

Depth and thickness of girder at centre 8 1/4" - 1 1/2" Length as per rule 32 3/4" Distance apart 8"

Number and pitch of stays in each 3-7 1/2"

Working pressure by rules 183

Steam dome: description of joint to shell None % of strength of joint

Thickness of shell plates

Material

Description of longitudinal joint Diam. of rivet holes

Working pressure of shell by rules

Crown plates

Thickness How stayed

Superheater. Type None

Date of Approval of Plan

Tested by Hydraulic Pressure to

Is a Safety Valve fitted to each Section of the Superheater which can be shut off from the Boiler

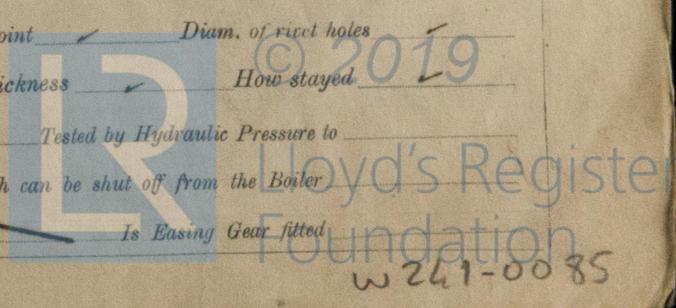
Is Easing Gear fitted

Pressure to which each is adjusted

Pressure to which each is adjusted

Is Easing Gear fitted

Pressure to which each is adjusted



IS A DONKEY BOILER FITTED? *No.*

If so, is a report now forwarded?

SPARE GEAR. State the articles supplied: — *One C.I. Propeller - linerless screwshaft - 4 main Bearing Bolts & Nuts - 2 Bottom End Bolts & Nuts - 2 Top end Bolts & Nuts - Set of Coupling Bolts - Pin crank pin Brasses - Eccentric Strap & Sheave - slide valve spindle - 2 dozen junk ring Bolts - set of rings and spines for each piston, piston valve - air pump rod - set of air pump valves - 24 Condenser tubes - 50 females - 3 sets of main and Auxiliary Check valves - 3 sets Safety valve springs - 24 plain + 2 stay tubes for Boilers - set of valves, spindles & springs for O.F. pumps - set of valves, spindles & springs for Ballast pump - Feed and Bilge pumps' valves - Assorted Bolts, nuts and iron -*

The foregoing is a correct description,

R. W. G. ARMSTRONG, WHITWORTH & CO. LTD. Manufacturer.

Saco

Dates of Survey while building: During progress of work in shops -- *1920. Oct 11, 19, 26. Nov 5, 8, 10, 15, 18, 24. Dec 9, 13, 16, 23. 1921. Jan 17, 21, 25, 28. Feb 10, 17, 18. Mar 1, 17, 19, 21. May 24. June 6, 11, 16, 17, 29. July 4, 7, 20, 22. Aug 3, 11, 20, 24, 26, 29, 31. Sep 1, 2, 5, 6, 7, 9, 12, 22, 23, 26, 28, 29. Oct 3, 4, 5, 7, 10, 11, 13, 17, 19, 21, 25, 26, 27, 28, 31. Nov 2, 4, 7, 10, 14, 17, 21. Dec 5, 9, 17, 19, 20, 24, 30. 1922. Jan 4, 12.* During erection on board vessel -- *12.* Total No. of visits *85*

Is the approved plan of main boiler forwarded herewith

Dates of Examination of principal parts—Cylinders *28.9.21* Slides *25.10.21* Covers *24.10.21* Pistons *25.10.21* Rods *25.10.21*

Connecting rods *25.10.21* Crank shaft *22.9.21* Thrust shaft *22.9.21* Tunnel shafts Screw shaft *19.10.21* Propeller *13.10.21*

Stern tube *4.7.21* Steam pipes tested *19.10.21* Engine and boiler seatings *31.10.21* Engines holding down bolts *19.12.21*

Completion of pumping arrangements *12.1.22* Boilers fixed *19.12.21* Engines tried under steam *12.1.22*

Completion of fitting sea connections *31.10.21* Stern tube *31.10.21* Screw shaft and propeller *31.10.21*

Main boiler safety valves adjusted *12.1.22* Thickness of adjusting washers *For Blk F 2 1/2 " A 3/4 " Dia Blk F A 2 1/2 " 3/2 " Blk F 7/16 A 3/8 "*

Material of Crank shaft *S.M.S* Identification Mark on Do. *R.L.A. 9.21* Material of Thrust shaft *S.M.S* Identification Mark on Do. *R.L.A. 9.21*

Material of Tunnel shafts Identification Marks on Do. Material of Screw shafts *S.M.S* Identification Marks on Do. *R.L.A. 10.21*

Material of Steam Pipes *Solid Draw Steel* Test pressure *540 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 *"El Oro"*

General Remarks (State quality of workmanship, opinions as to class, &c. *The machinery of this vessel has been*

constructed under Special Survey. The workmanship and materials are sound and good. The Boilers were tested by hydraulic pressure and their safety valves adjusted under steam. The main and Auxiliary machinery were tried out under working conditions satisfactorily. An Oil Fuel Burning plant on the Wallend - Howden system has been efficiently installed. The requirements of Section No. 49 of the rules have been complied with. The screwshaft is linerless and fitted with a Ticker's flange. In my opinion, this vessel is eligible to be classed in the Society's Register Book with notation $\frac{1}{2}$ L.M.C. 1.22 fitted for Oil Fuel & 22. F.P. above 150° F.

It is submitted that this vessel is eligible for THE RECORD. $\frac{1}{2}$ L.M.C. - 1.22 F.D

Fitted for Oil Fuel, 1.22, F.P. above 150° F.

1/2/22

The amount of Entry Fee ... £ 6 : - :
Special ... £ 108 : 18 :
Donkey Boiler Fee ... £ : :
Travelling Expenses (if any) £ : :
When applied for. *30/1/22*
When received. *7.2.22*

Rlee Amess
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute *THE 7 FEB 1922*

Assigned *+ L.M.C. 1.22 F.D*

*Fitted for oil fuel 1.22
F.P. above 150° F*

CERTIFICATE WRITTEN



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Lloyd's Register Foundation

Newcastle

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