

# REPORT ON MACHINERY.

Received at London Office

Date of writing Report **July 10, 1922** When handed in at Local Office

19 **Port of Tampico, Mexico.**

No. in Survey held at **Tampico, Mexico**  
Reg. Book.

Date, First Survey **Feb. 8, 1922** Last Survey **July 8th, 19 22**  
(Number of Visits **2**)

**X** on the **Single Screw Motor Barge (1343) Now named "EL UNICO"**

Tons } Gross  
          } Net

Master **XXX** Built at **Tampico** By whom built **Messrs. Rennie, Ritchie & Newport.** When built **May, 1922.**

Engines made at **Newbury** By whom made **Plenty & Son, Ltd.** when made **1920.**

Boilers made at **None.** By whom made \_\_\_\_\_ when made \_\_\_\_\_

Brake ~~XXXXXX~~ Horse Power **90 H.P.** Owners **Cia. Naviera San Cristobal, S.A.** Port belonging to **Tampico, Mexico.**

Nom. Horse Power as per Section 28 **26 N.H.** Is Refrigerating Machinery fitted for cargo purposes **No** Is Electric Light fitted **Yes**

**ENGINES, &c.**—Description of Engines **Kromhout Motor - "M 314"** No. of Cylinders **2** No. of Cranks **2**

Dia. of Cylinders **335 m/m** Length of Stroke **350 m/m** Revs. per minute **265** Dia. of Screw shaft as per rule **4 15/16** Material of } **Steel**  
as fitted } screw shaft }

Is the screw shaft fitted with a continuous liner the whole length of the stern tube **No.** Is the after end of the liner made water tight in the propeller boss \_\_\_\_\_ 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 **8ft-8in approx.**

Dia. of Tunnel shaft as per rule **5 1/2 in** Dia. of Crank shaft journals as per rule **122.5** Dia. of Crank pin **122.5** Size of Crank webs **70x60** Dia. of thrust shaft under collars **107 m/m** Dia. of screw **46 in** Pitch of Screw **51 in** No. of Blades **4** State whether moveable **No** Total surface \_\_\_\_\_

No. of Feed pumps **None.** Diameter of ditto \_\_\_\_\_ Stroke \_\_\_\_\_ Can one be overhauled while the other is at work \_\_\_\_\_

No. of Bilge pumps **3 Hand Engine** Diameter of ditto **1 1/4"** Stroke **1 5/8"** Can one be overhauled while the other is at work \_\_\_\_\_

No. of Donkey Engines \_\_\_\_\_ Sizes of Pumps \_\_\_\_\_ No. and size of Suctions connected to both Bilge and ~~XXXX~~ pumps \_\_\_\_\_

In Engine Room **Two 2 in.** In Holds, &c. **Two 2 in. in the Fore Peak, Cargo Hold and After Peak - - Making total of Eight 2inch Bilge Suctions.**

No. of Bilge Injections **1** sizes **2"** Connected to ~~XXXX~~, or to circulating pump \_\_\_\_\_ Is a separate Donkey Suction fitted in Engine room & size **None.**

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 **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 \_\_\_\_\_

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 **None.** Is it fitted with a watertight door \_\_\_\_\_ worked from \_\_\_\_\_

## OILERS, &c.—(Letter for record \_\_\_\_\_) Manufacturers of Steel **None.**

Total Heating Surface of Boilers \_\_\_\_\_ Is Forced Draft fitted \_\_\_\_\_ No. and Description of Boilers \_\_\_\_\_

Working Pressure \_\_\_\_\_ Tested by hydraulic pressure to \_\_\_\_\_ Date of test \_\_\_\_\_ No. of Certificate \_\_\_\_\_

Can each boiler be worked separately \_\_\_\_\_ Area of fire grate in each boiler \_\_\_\_\_ No. and Description of Safety Valves to such boiler \_\_\_\_\_

Area of each valve \_\_\_\_\_ Pressure to which they are adjusted \_\_\_\_\_ Are they fitted with easing gear \_\_\_\_\_

Smallest distance between boilers or uptakes and bunkers or woodwork \_\_\_\_\_ Mean dia. of boilers \_\_\_\_\_ Length \_\_\_\_\_ Material of shell plates \_\_\_\_\_

Thickness \_\_\_\_\_ Range of tensile strength \_\_\_\_\_ Are the shell plates welded or flanged \_\_\_\_\_ Descrip. of riveting: cir. seams \_\_\_\_\_

long. seams \_\_\_\_\_ Diameter of rivet holes in long. seams \_\_\_\_\_ Pitch of rivets \_\_\_\_\_ Lap of plates or width of butt straps \_\_\_\_\_

Per centages of strength of longitudinal joint \_\_\_\_\_ rivets \_\_\_\_\_ Working pressure of shell by rules \_\_\_\_\_ Size of manhole in shell \_\_\_\_\_

Size of compensating ring \_\_\_\_\_ No. and Description of Furnaces in each boiler \_\_\_\_\_ Material \_\_\_\_\_ Outside diameter \_\_\_\_\_

Length of plain part top \_\_\_\_\_ Thickness of plates crown \_\_\_\_\_ Description of longitudinal joint \_\_\_\_\_ No. of strengthening rings \_\_\_\_\_

bottom \_\_\_\_\_

Working pressure of furnace by the rules \_\_\_\_\_ Combustion chamber plates: Material \_\_\_\_\_ Thickness: Sides \_\_\_\_\_ Back \_\_\_\_\_ Top \_\_\_\_\_ Working pressure by rules \_\_\_\_\_

Pitch of stays to ditto: Sides \_\_\_\_\_ Back \_\_\_\_\_ Top \_\_\_\_\_ If stays are fitted with nuts or riveted heads \_\_\_\_\_ Working pressure by rules \_\_\_\_\_ End plates in steam space: \_\_\_\_\_

Material of stays \_\_\_\_\_ Area at smallest part \_\_\_\_\_ Area supported by each stay \_\_\_\_\_ Working pressure by rules \_\_\_\_\_ Material of stays \_\_\_\_\_

Material \_\_\_\_\_ Thickness \_\_\_\_\_ Pitch of stays \_\_\_\_\_ How are stays secured \_\_\_\_\_ Working pressure by rules \_\_\_\_\_ Material of Front plates at bottom \_\_\_\_\_

Area at smallest part \_\_\_\_\_ Area supported by each stay \_\_\_\_\_ Working pressure by rules \_\_\_\_\_ Material of Front plates at bottom \_\_\_\_\_ Working pressure of plate by rules \_\_\_\_\_

Thickness \_\_\_\_\_ Material of Lower back plate \_\_\_\_\_ Thickness \_\_\_\_\_ Greatest pitch of stays \_\_\_\_\_ Working pressure of plate by rules \_\_\_\_\_

Diameter of tubes \_\_\_\_\_ Pitch of tubes \_\_\_\_\_ Material of tube plates \_\_\_\_\_ Thickness: Front \_\_\_\_\_ Back \_\_\_\_\_ Mean pitch of stays \_\_\_\_\_

Pitch across wide water spaces \_\_\_\_\_ Working pressures by rules \_\_\_\_\_ Girders to Chamber tops: Material \_\_\_\_\_ Depth and \_\_\_\_\_

thickness of girder at centre \_\_\_\_\_ Length as per rule \_\_\_\_\_ Distance apart \_\_\_\_\_ Number and pitch of stays in each \_\_\_\_\_

Working pressure by rules \_\_\_\_\_ Steam dome: description of joint to shell \_\_\_\_\_ % of strength of joint \_\_\_\_\_

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

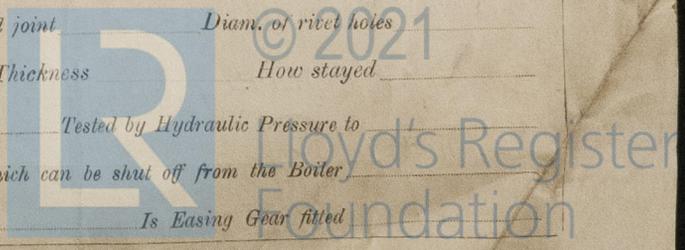
Pitch of rivets \_\_\_\_\_ Working pressure of shell by rules \_\_\_\_\_ Crown plates \_\_\_\_\_ Thickness \_\_\_\_\_ How stayed \_\_\_\_\_

**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 \_\_\_\_\_

013057-013062-0192



IS A DONKEY BOILER FITTED?

None.

If so, is a report now forwarded?

SPARE GEAR. State the articles supplied:— 3-Big End Brasses; 2-Full Sets Piston Rings for Fitting; 1- Complete Piston ready for Fitting; 1- Gudgeon Pin for Fitting; 2- Leather Plungers for Bilge Pump; 2- Blow Lamp Heads; 1- Bolw Lamp Head for Winch; 3- Injection Pipes for Fuel Pumps; Various Springs for Fuel Check Valves; 1- Propeller; And necessary small Tools and Equipment for running repairs, comprising Hammer, Chisels, Saw, Drills, Taps, Bolts etc, etc.

The foregoing is a correct description,

Manufacturer.

Dates of Survey while building { During progress of work in shops - - During erection on board vessel - - - Total No. of visits

February 8th, and July 8th, 1922.

Two.

Is the approved plan of main boiler forwarded herewith XX

“ “ “ donkey “ “ “ XX

Dates of Examination of principal parts—Cylinders 8/2/22 Slides 8/2/22 Covers 8/2/22 Pistons 8/2/22 Rods 8/2/22 Connecting rods 8/2/22 Crank shaft 8/2/22 Thrust shaft 8/2/22 Tunnel shafts Screw shaft 8/2/22 Propeller 8/2/22 Stern tube 8/2/22 Steam pipes tested X Engine and ~~other~~ seatings 8/2/22 Engines holding down bolts 8/2/22 Completion of pumping arrangements 8/7/22 ~~Boilers fixed~~ Engines tried ~~under steam~~ 8/7/22 Completion of fitting sea connections 8/7/22 Stern tube Screw shaft and propeller Main boiler safety valves adjusted X Thickness of adjusting washers X Material of Crank shaft Steel Identification Mark on Do H.P.C.L. Material of Thrust shaft Steel Identification Mark on Do. Lloyds 29.9.20 TRB. Material of Tunnel shafts Identification Marks on Do. Material of Screw shafts Steel Identification Marks on Do. Material of Steam Pipes X Test pressure X Is an installation fitted for burning oil fuel X Is the flash point of the oil to be used over 150°F. X Have the requirements of Section 49 of the Rules been complied with Yes- so far as applicable. Is this machinery duplicate of a previous case ✓ If so, state name of vessel ✓

General Remarks (State quality of workmanship, opinions as to class, &c. This Main Engine ( Kromhout - Type M.P. - Size 2.m.4. # 314 - 90 H.P. ) when assembled on the test blocks in the local shops of the Mexican Eagle Oil Company was found to be in very unsatisfactory condition as regards shop workmanship. The Gudgeon Pins in the Pistons were a very poor fit; the Crank Pins were only rough turned; and the Journal Bearings of the Crank Shaft were out of line and not properly finished . New Gudgeon Pins have been properly fitted and all bearings throughout the engine have been thoroughly lined up and dressed and polished. During bench trials the engine gave a great deal of trouble through heating and in one instance the Pistons froze to the Cylinder Walls. The imperfections in the engine have been remedied and during the trial trip on the Panuco River on July 8th the engine performed in satisfactory manner.

The Winch Unit consists of a British Kromhout 12 B.H.P, Type M.O. # 5118 Motor connected by Friction Drive to Drums operating the Cargo Gear. This Engine being a single cylinder unit develops a very excessive amount of vibration and in consequence a set of stiffening beams are being placed immediately under the Winch Unit with a view to absorb a large part of the vibration and prevent the opening up of the deck seams.

The amount of Entry Fee ... £ : : When applied for, Special ... £ \$ 100.00 Mex : 7/11 19 22 Donkey Boiler Fee ... £ : : When received, Travelling Expenses (if any) £ : : 7/11 19 22

Vernon Dyer Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute

TUE. 30 JAN. 1923

Assigned

+ Ldn 6.7.22 oil engines.



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