

# REPORT ON MACHINERY.

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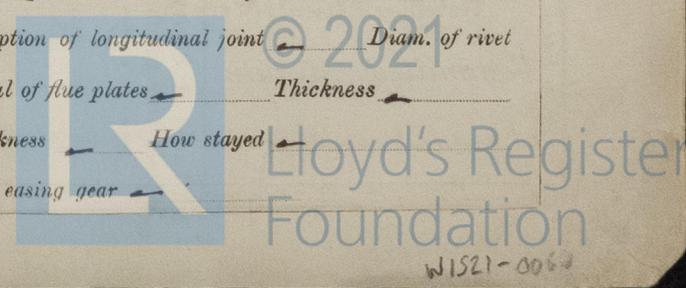
Date of writing Report *August 19 11* When handed in at Local Office *19* Port of *Amsterdam*  
 No. in Survey held at *Zalt Bommel* Date, First Survey *19 June* Last Survey *18 August 1911*  
 Reg. Book. on the *Steel Hopper Dredger Maranhao (J. Meijers Shipbuilding Co No 313)* (Number of Visits *5*) Tons { Gross *579*  
 Master *M. Boro* Built at *Zalt Bommel* By whom built *J. Meijers Shipbuilding Co* When built *1911*  
 Engines made at *South Shields* By whom made *G. S. Grey* when made *1911*  
 Boilers made at *Maarlem* By whom made *N. V. West Wubertina 1/2 W. B. Jans* when made *1911*  
 Registered Horse Power Owners *Brazilian Government* Port belonging to *Maranhao*  
 Nom. Horse Power as per Section 28 Is Refrigerating Machinery fitted for cargo purposes *No* Is Electric Light fitted *Yes*

## ENGINES, &c.—Description of Engines

No. of Cylinders *2* No. of Cranks *2*  
 Dia. of Cylinders *16 1/2* Length of Stroke *16 1/2* Revs. per minute *160* Dia. of Screw shaft *as per rule* Material of screw shaft *as fitted*  
 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 *Yes* Length of stern bush *16 1/2*  
 Dia. of Tunnel shaft *as per rule* Dia. of Crank shaft journals *as per rule* Dia. of Crank pin *as fitted* Size of Crank webs *as fitted* Dia. of thrust shaft under collars *as fitted*  
 Dia. of screw *as fitted* Pitch of Screw *as fitted* No. of Blades *as fitted* State whether moceable *as fitted* Total surface *as fitted*  
 No. of Feed pumps *2* Diameter of ditto *as fitted* Stroke *as fitted* Can one be overhauled while the other is at work *Yes*  
 No. of Bilge pumps *2* Diameter of ditto *as fitted* Stroke *as fitted* Can one be overhauled while the other is at work *Yes*  
 No. of Donkey Engines *2* Sizes of Pumps *as fitted* No. and size of Suctions connected to both Bilge and Donkey pumps *as fitted*  
 In Engine Room *three 2"* In Holds, &c. *four hold One 2" in Siding of Hopper four 2"*  
 No. of Bilge Injections *2* sizes *as fitted* Connected to condenser, or to circulating pump *as fitted* Is a separate Donkey Suction fitted in Engine room & size *Yes, 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 *Valves & Cocks*  
 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 *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*  
 What pipes are carried through the bunkers *None* How are they protected *as fitted*  
 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 *19 June* of Stern Tube *19 June* Screw shaft and Propeller *19 June*  
 Is the Screw Shaft Tunnel watertight *Yes* Is it fitted with a watertight door *Yes* worked from *as fitted*

## OILERS, &c.—(Letter for record)

Manufacturers of Steel *as fitted*  
 Total Heating Surface of Boilers *as fitted* Is Forced Draft fitted *as fitted* No. and Description of Boilers *as fitted*  
 Working Pressure *as fitted* Tested by hydraulic pressure to *as fitted* Date of test *as fitted* No. of Certificate *as fitted*  
 Can each boiler be worked separately *Yes* Area of fire grate in each boiler *as fitted* No. and Description of Safety Valves to each boiler *two direct Spring* Area of each valve *3.1416 sq. ft.* 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 *36" Siding of hull* Mean dia. of boilers *as fitted* Length *as fitted* Material of shell plates *as fitted*  
 Thickness *as fitted* Range of tensile strength *as fitted* Are the shell plates welded or flanged *as fitted* Descrip. of riveting: cir. seams *as fitted*  
 ft. ing. seams *as fitted* Diameter of rivet holes in long. seams *as fitted* Pitch of rivets *as fitted* Lap of plates or width of butt straps *as fitted*  
 Per centages of strength of longitudinal joint *as fitted* Working pressure of shell by rules *as fitted* Size of manhole in shell *as fitted*  
 Size of compensating ring *as fitted* No. and Description of Furnaces in each boiler *as fitted* Material *as fitted* Outside diameter *as fitted*  
 Length of plain part *as fitted* Thickness of plates *as fitted* Description of longitudinal joint *as fitted* No. of strengthening rings *as fitted*  
 Working pressure of furnace by the rules *as fitted* Combustion chamber plates: Material *as fitted* Thickness: Sides *as fitted* Back *as fitted* Top *as fitted* Bottom *as fitted*  
 Pitch of stays to ditto: Sides *as fitted* Back *as fitted* Top *as fitted* If stays are fitted with nuts or riveted heads *as fitted* Working pressure by rules *as fitted*  
 Material of stays *as fitted* Diameter at smallest part *as fitted* Area supported by each stay *as fitted* Working pressure by rules *as fitted* End plates in steam space: *as fitted*  
 Material *as fitted* Thickness *as fitted* Pitch of stays *as fitted* How are stays secured *as fitted* Working pressure by rules *as fitted* Material of stays *as fitted*  
 Diameter at smallest part *as fitted* Area supported by each stay *as fitted* Working pressure by rules *as fitted* Material of Front plates at bottom *as fitted*  
 Thickness *as fitted* Material of Lower back plate *as fitted* Thickness *as fitted* Greatest pitch of stays *as fitted* Working pressure of plate by rules *as fitted*  
 Diameter of tubes *as fitted* Pitch of tubes *as fitted* Material of tube plates *as fitted* Thickness: Front *as fitted* Back *as fitted* Mean pitch of stays *as fitted*  
 Pitch across wide water spaces *as fitted* Working pressures by rules *as fitted* Girders to Chamber tops: Material *as fitted* Depth and *as fitted*  
 Thickness of girder at centre *as fitted* Length as per rule *as fitted* Distance apart *as fitted* Number and pitch of stays in each *as fitted*  
 Working pressure by rules *as fitted* Superheater or Steam chest; how connected to boiler *as fitted* Can the superheater be shut off and the boiler worked *as fitted*  
 Diameter *as fitted* Length *as fitted* Thickness of shell plates *as fitted* Material *as fitted* Description of longitudinal joint *as fitted* Diam. of rivet *as fitted*  
 Pitch of rivets *as fitted* Working pressure of shell by rules *as fitted* Diameter of flue *as fitted* Material of flue plates *as fitted* Thickness *as fitted*  
 Stiffened with rings *as fitted* Distance between rings *as fitted* Working pressure by rules *as fitted* End plates: Thickness *as fitted* How stayed *as fitted*  
 Working pressure of end plates *as fitted* Area of safety valves to superheater *as fitted* Are they fitted with easing gear *as fitted*



VERTICAL DONKEY BOILER— Manufacturers of Steel

No. \_\_\_\_\_ Description \_\_\_\_\_

Made at \_\_\_\_\_ By whom made \_\_\_\_\_ When made \_\_\_\_\_ Where fixed \_\_\_\_\_

Working pressure \_\_\_\_\_ tested by hydraulic pressure to \_\_\_\_\_ Date of test \_\_\_\_\_ No. of Certificate \_\_\_\_\_ Fire grate area \_\_\_\_\_ Description of Safety \_\_\_\_\_

Valves \_\_\_\_\_ No. of Safety Valves \_\_\_\_\_ Area of each \_\_\_\_\_ Pressure to which they are adjusted \_\_\_\_\_ Date of adjustment \_\_\_\_\_

If fitted with easing gear \_\_\_\_\_ If steam from main boilers can enter the donkey boiler \_\_\_\_\_ Dia. of donkey boiler \_\_\_\_\_ Length \_\_\_\_\_

Material of shell plates \_\_\_\_\_ Thickness \_\_\_\_\_ Range of tensile strength \_\_\_\_\_ Descrip. of riveting long. seams \_\_\_\_\_

Dia. of rivet holes \_\_\_\_\_ Whether punched or drilled \_\_\_\_\_ Pitch of rivets \_\_\_\_\_ Lap of plating \_\_\_\_\_ Per centage of strength of joint \_\_\_\_\_ Rivets \_\_\_\_\_ Plates \_\_\_\_\_

Working pressure of shell by rules \_\_\_\_\_ Thickness of shell crown plates \_\_\_\_\_ Radius of do. \_\_\_\_\_ No. of stays to do. \_\_\_\_\_ Dia. of stays \_\_\_\_\_

Diameter of furnace Top \_\_\_\_\_ Bottom \_\_\_\_\_ Length of furnace \_\_\_\_\_ Thickness of furnace plates \_\_\_\_\_ Description of joint \_\_\_\_\_

Working pressure of furnace by rules \_\_\_\_\_ Thickness of furnace crown plates \_\_\_\_\_ Stayed by \_\_\_\_\_

Diameter of uptake \_\_\_\_\_ Thickness of uptake plates \_\_\_\_\_ Thickness of water tubes \_\_\_\_\_ Dates of survey \_\_\_\_\_

SPARE GEAR. State the articles supplied:—

The foregoing is a correct description,

Manufacturer.

Dates of Survey while building \_\_\_\_\_

During progress of work in shops - - - *June 19, July 18, August 4-10 & 18, 1911*

During erection on board vessel - - - \_\_\_\_\_

Total No. of visits *5*

Is the approved plan of main boiler forwarded herewith *Yes*

" " " donkey " " " *Yes*

Dates of Examination of principal parts—Cylinders \_\_\_\_\_ Slides \_\_\_\_\_ Covers \_\_\_\_\_ Pistons \_\_\_\_\_ Rods \_\_\_\_\_

Connecting rods *✓* Crank shaft *✓* Thrust shaft *18 July* Tunnel shafts *18 July* Screw shaft *19 June* Propeller *19 June*

Stern tube *19 June* Steam pipes tested *4 August* Engine and boiler seatings *19 June* Engines holding down bolts *4 August*

Completion of pumping arrangements *10 August* Boilers fixed *4 August* Engines tried under steam *18 August*

Main boiler safety valves adjusted *10 August* Thickness of adjusting washers *SB fore 3/8 aft 1/2 PB fore 3/8 aft 5/16*

Material of Crank shaft \_\_\_\_\_ Identification Mark on Do. \_\_\_\_\_ Material of Thrust shaft \_\_\_\_\_ Identification Mark on Do. \_\_\_\_\_

Material of Tunnel shafts \_\_\_\_\_ Identification Marks on Do. \_\_\_\_\_ Material of Screw shafts \_\_\_\_\_ Identification Marks on Do. \_\_\_\_\_

Material of Steam Pipes *Copper* Test pressure *360 lbs per Sq inch*

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

*This vessel's machinery and boilers have been fitted in an efficient manner and proved to be during the steam trials to work satisfactorily without hitches or heating and boilers perfectly tight. I am of opinion that the vessel is eligible to be Classed in the Society's Register Book*

**LMC\_8.1911.**

It is submitted that this vessel is eligible for THE RECORD. +LMC 8.11

*JRM*  
*3/8/11*

*J. H. H. H.*  
Engineer Surveyor to Lloyd's Register of British & Foreign Shipping

The amount of Entry Fee .. £ *See Collec* When applied for, \_\_\_\_\_

Special .. *ted at Newcastle* .. 19 ..

Donkey Boiler Fee .. *of which 1/2 fee to be credited to amt* ..

Travelling Expenses (if any) £ : : When received, .. 19 ..

Committee's Minute *FRI SEP 1-1911*

Assigned *Home 8.11*

MACHINERY CERTIFICATE WRITTEN.



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Certificate (if required) to be sent to Surveyors, Amsterdam