

## REPORT ON MACHINERY.

Port of *Amsterdam*

Received at London Office

28 MAR 92

No. in Survey held at *Amsterdam*Date, first Survey *4 Oct 91*Last Survey *21 March 1892*

Reg. Book.

on the *Steel Twin screw Rivertug "Poolster"*(Number of Visits *13*)Master *D. Kolk*Built at *Amsterdam*By whom built *Koninklyke Fabriek*Tons } Gross  
Net *59*  
When built *89*Engines made at *Amsterdam*By whom made *Van Stoom- en Werktuig*when made *89*Boilers made at *Amsterdam*By whom made *H. & J. Suys*when made *92*Registered Horse Power *✓*Owners *Stoom Sleep- en Drinkwaterdienst.*Port belonging to *Amsterdam*Horse Power as per Section 28 *52 total*GINES, &c.— Description of Engines *Twin screw, Inverted triple expansion* No. of Cylinders *6*Diameter of Cylinders *8 1/4", 12 3/4" & 20 1/2"* Length of Stroke *14 1/4"* Revolutions per minute *190* Diameter of Screw shaft *as per rule 3.8*Diameter of Tunnel shaft *as per rule 3.65* Diameter of Crank shaft journals *4"* Diameter of Crank pin *4"* Size of Crank webs *5" x 3"*Diameter of screw *4'-8"* Pitch of screw *5.5 ft* No. of blades *4* State whether moveable *no* Total surface *✓*No. of Feed pumps *2* Diameter of ditto *2 1/2"* Stroke *3"* Can one be overhauled while the other is at work *yes* *one feed & one bilge pump to each engine.*No. of Bilge pumps *2* Diameter of ditto *2 1/2"* Stroke *3"* Can one be overhauled while the other is at work *yes*No. of Donkey Engines *1 Duplex* Sizes of Pumps *4" x 2 3/4" x 4"* No. and size of Suctions connected to both Bilge and Donkey pumpsEngine Room *2 Conn: 1 1/2" pipes, one conn: in stokehold* In Holds, &c. *there are no holds, all available*

Space is crewspace, handpumps before &amp; abaft bulkheads. Eng &amp; boiler room bulkheads fitted with sluices.

No. of bilge injections *1* sizes *2 1/2"* Connected to condenser, &c. to circulating pump. Is a separate donkey suction fitted in Engine room & size *no*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 *yes*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*When were stern tube, propeller, screw shaft, and all connections examined in dry dock *21 March 92* Is the screw shaft tunnel watertight *no tunnel*Is it fitted with a watertight door *✓* worked from *✓*OILERS, &c.— (Letter for record *A*) Total Heating Surface of Boilers *1068 sq. ft*No. and Description of Boilers *1. Cylindrical tubular* Working Pressure *160 lb.* Tested by hydraulic pressure to *320 lb.*Date of test *8.2.92* Can each boiler be worked separately *✓* Area of fire grate in each boiler *40 ft* No. and Description of safety valves toeach boiler *2. Lever & weight* Area of each valve *12.55* Pressure to which they are adjusted *160 lb.* Are they fittedwith easing gear *yes* Smallest distance between boilers or uptakes and bunkers or woodwork *5"* Mean diameter of boilers *8'-10"*Length *12 ft* Material of shell plates *steel* Thickness *3/32* Description of riveting: circum. seams *double lap* long. seams *6 fold, lap.*Diameter of rivet holes in long. seams *1 7/32* Pitch of rivets *6 7/8* Lap of plates or width of butt straps *11 7/8*Per centages of strength of longitudinal joint *80* Working pressure of shell by rules *174 lb.* Size of manhole in shell *15" (entrance through steam chest)*Size of compensating ring *flange of machine* No. and Description of Furnaces in each boiler *3 plain* Material *steel* Outside diameter *28 7/8"*Length of plain part *top 8'-6" bottom 8'-6"* Thickness of plates *cross 11/16 bottom 11/16* Description of longitudinal joint *butt strapped* No. of strengthening rings *none*Working pressure of furnace by the rules *172* Combustion chamber plates: Material *steel* Thickness: Sides *11/16* Back *23/32* Top *11/16* Bottom *11/16*Pitch of stays to ditto: Sides *4 7/8* Back *4 7/8* Top *4 7/8* If stays are fitted with nuts or riveted heads *riv. heads* Working pressure by rules *195*Material of stays *iron* Diameter at smallest part *1 7/16* Area supported by each stay *62* Working pressure by rules *160* End plates in steam space:Material *steel* Thickness *31/32* Pitch of stays *16 1/2" x 11* How are stays secured *double strap* Working pressure by rules *210* Material of stays *iron*Diameter at smallest part *2 1/4* Area supported by each stay *16.5 x 11* Working pressure by rules *164* Material of Front plates at bottom *steel*Thickness *31/32* Material of Lower back plate *steel* Thickness *31/32* Greatest pitch of stays *11"* Working pressure of plate by rules *246*Diameter of tubes *2 1/2* Pitch of tubes *3 1/2* Material of tube plates *steel* Thickness: Front *31/32* Back *3/4* Mean pitch of stays *7 x 10.5*Pitch across wide water spaces *10 1/2* Working pressures by rules *281* Girders to Chamber tops: Material *iron* Depth andthickness of girder at centre *4 7/8 x 1* Length as per rule *31 1/2* Distance apart *4 7/8* Number and pitch of Stays in each *3 - 7 7/8*Working pressure by rules *192* Superheater or Steam chest; how connected to boiler *neck pipe* Can the superheater be shut off and the boiler workedseparately *no* Diameter *39 1/4* Length *39 1/4* Thickness of shell plates *9/16* Material *steel* Description of longitudinal joint *lap* Diam. of rivetholes *7/8* Pitch of rivets *3 1/8* Working pressure of shell by rules *175* Diameter of flue *✓* Material of flue plates *✓* Thickness *✓*If stiffened with rings *✓* Distance between rings *✓* Working pressure by rules *✓* End plates: Thickness *3/4* How stayed *double*Working pressure of end plates *✓* Area of safety valves to superheater *✓* Are they fitted with easing gear *✓*



# DONKEY BOILER— Description *None*

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

Working pressure tested by hydraulic pressure to \_\_\_\_\_ No. of Certificate \_\_\_\_\_ Fire grate area \_\_\_\_\_ Description of safety valves \_\_\_\_\_

No. of safety valves \_\_\_\_\_ Area of each \_\_\_\_\_ Pressure to which they are adjusted \_\_\_\_\_ If fitted with casing gear \_\_\_\_\_ If steam from main boilers can enter the donkey boiler \_\_\_\_\_

Diameter of donkey boiler \_\_\_\_\_ Length \_\_\_\_\_ Material of shell plates \_\_\_\_\_ Thickness \_\_\_\_\_

Description of riveting long seams \_\_\_\_\_ Diameter of rivet holes \_\_\_\_\_ Whether punched or drilled \_\_\_\_\_ Pitch of rivets \_\_\_\_\_

Lap of plating \_\_\_\_\_ Per centage of strength of joint \_\_\_\_\_ Rivets \_\_\_\_\_ 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 \_\_\_\_\_ Thickness of furnace crown plates \_\_\_\_\_ Stayed by \_\_\_\_\_ Working pressure of shell by rules \_\_\_\_\_

Working pressure of furnace by rules \_\_\_\_\_ Diameter of uptake \_\_\_\_\_ Thickness of uptake plates \_\_\_\_\_ Thickness of water tubes \_\_\_\_\_

SPARE GEAR. State the articles supplied:— 2 Connecting rod top top end bolts, 2 Connecting rod bottom end bolts; 2 Air bearing bolts; one set of Coupling bolts not required as the shafts are fitted with sockets & keys; one set of feed & bilge pump valves, & quantity of iron of various sizes and of assorted bolts & nuts—

The foregoing is a correct description of the main boiler

Manufacturer.

*J. G. Surjver*

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

The machinery has been opened out as required for special survey. The cylinder pistons, I.P. & L.P. slides and faces were found to be in good condition. The L.P. slides have been renewed. Air, circulating, feed & bilge pumps and their valves are in good working order; surface condensers have been tested and are good. Crank, tunnel & tailend shafts have been examined, good.

Seacconnection good.

The machinery received a thorough overhaul, slide motions made good where necessary.

As this vessel has been built and fitted out entirely for towing on the Dutch river and the Rhine, I am of opinion that she is eligible for classification as requested and to be recorded in the Society's Register Book with

B & M. S. 3.92 \* N. B. 3.92

*It is submitted that Mr. van Ollefen be requested to ascertain where the steel used in the construction of this boiler was manufactured and what steps he has taken to ascertain whether it is of the quality prescribed by the rules. CWS. 29.3.92*

Certificate (if required) to be sent to \_\_\_\_\_

The amount of Entry Fee.. £ 1 : 6 : 6 : *not due now.*  
 Special Survey .. £ 6 : 6 : 6 : *as 8/4/92*  
 Donkey Boiler Fee .. £ 1 : 6 : 6 : *When applied for*  
 Travelling Expenses (if any) £ 2 : 2 : 2 : *When required*

*W. F. D. van Ollefen*  
 Engineer Surveyor to Lloyd's Register of British & Foreign Shipping

Committee's Minute TUES. 29 MAR 1892

TUES. 5 APR 1892

Assigned

