

# REPORT ON MACHINERY.

Port of Swan

No. in Survey held at Bonley & Hull  
Reg. Book.

Date, first Survey Apr. 30<sup>th</sup> 1894 Last Survey Jan 28-18 94

Received at London Office

1893 JUL 1894

(Number of Visits Eight)

Master on the Iron Steam Trawler 'Rio'

Tons { Gross 117  
Net 36

Master Bonley Built at Bonley By whom built Cochrane & Cooper

When built 1894

Engines made at Hull By whom made Charles & Holmes & Co when made 1894

Boilers made at Hull By whom made Charles & Holmes & Co when made 1894

Registered Horse Power 44 Owners G & J Sleight Port belonging to Swanby

Nom. Horse Power as per Section 28

**ENGINES, &c.—** Description of Engines Compound Inverted & Acting No. of Cylinders two

Diameter of Cylinders 17" x 32" Length of Stroke 21" Revolutions per minute 110 Diameter of Screw shaft as per rule 5 7/8"  
as fitted 6 1/4"

Diameter of Tunnel shaft as per rule 5 1/2" Diameter of Crank shaft journals 6" Diameter of Crank pin 6" Size of Crank webs 8" x 4 1/2"  
as fitted 5 3/4"

Diameter of screw 7" 9" Pitch of screw 10" 6" 5" 9" 1" No. of blades 4 State whether moveable - Total surface 23 sq ft

No. of Feed pumps one Diameter of ditto 2 1/4" Stroke 18" Can one be overhauled while the other is at work -

No. of Bilge pumps one Diameter of ditto 2 1/4" Stroke 18" Can one be overhauled while the other is at work -

No. of Donkey Engines one Sizes of Pumps 3" x 6" No. and size of Suctions connected to both Bilge and Donkey pumps

In Engine Room one 2" In Holds, &c. one 2"

Also Ejecta with suction in the Engine room bilge and discharge on deck.

No. of bilge injections one sizes 3 1/2" Connected to condenser, or to circulating pump Is a separate donkey suction fitted in Engine room & size 2" - ejecta

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 suction to forward How are they protected wood casing

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 how new Is the screw shaft tunnel watertight yes tunnel

Is it fitted with a watertight door - worked from -

**OILERS, &c.—** (Letter for record S) Total Heating Surface of Boilers 780 sq ft

No. and Description of Boilers One Cylindrical Small Working Pressure 90 lb Tested by hydraulic pressure to 180 lb

Date of test 7/6/94 Can each boiler be worked separately - Area of fire grate in each boiler 27 sq ft No. and Description of safety valves to each boiler one opening loaded

Area of each valve 4.91 Pressure to which they are adjusted 95 lb Are they fitted with easing gear yes Smallest distance between boilers or uptakes and bunkers or woodwork 7" Mean diameter of boilers 10" 6"

Length 9" 0" Material of shell plates Steel Thickness 10/16" Description of riveting: circum. seams but 9/16" and lap long. seams 3/16" lap

Diameter of rivet holes in long. seams 1" Pitch of rivets 5 1/4" Lap of plates or width of butt straps 7 3/4"

Per centages of strength of longitudinal joint rivets 21.4% Working pressure of shell by rules 95 lb Size of manhole in shell 16" 12"  
plate 20.9%

Size of compensating ring 6" 10/16" No. and Description of Furnaces in each boiler two Plain Material Steel Outside diameter 37"

Length of plain part top 6" 0" Thickness of plates crown 1/2" Description of longitudinal joint bedded No. of strengthening rings -  
bottom 6" 4" bottom 1/2"

Working pressure of furnace by the rules 100 lb Combustion chamber plates: Material Steel Thickness: Sides 1/2" Back 1/2" Top 1/2" Bottom 9/16"

Pitch of stays to ditto: Sides 9" Back 8 1/2" Top 9" If stays are fitted with nuts or riveted heads nut Working pressure by rules 95 lb

Material of stays Steel Diameter at smallest part 1 1/4" Area supported by each stay 9" 9" Working pressure by rules 97 lb End plates in steam space: Material Steel Thickness 1 1/16" Pitch of stays 15 1/2" How are stays secured all nut Working pressure by rules 94 lb Material of stays Steel

Diameter at smallest part 2 1/16" Area supported by each stay 15 1/2" 2 Working pressure by rules 113 lb Material of Front plates at bottom Steel

Thickness 10/16" Material of Lower back plate Steel Thickness 10/16" Greatest pitch of stays 8 1/2" Working pressure of plate by rules 90 lb

Diameter of tubes 3 1/2" Pitch of tubes 4 3/4" Material of tube plates Steel Thickness: Front 10/16" Back 10/16" Mean pitch of stays 14" 9 1/2"

Pitch across wide water spaces 15" Working pressures by rules 90 lb Girders to Chamber tops: Material Iron Depth and thickness of girder at centre 5 1/2" x 1 1/2" Length as per rule 25" Distance apart 7 3/4" Number and pitch of Stays in each two 9"

Working pressure by rules 120 lb Superheater or Steam chest; how connected to boiler Can the superheater be shut off and the boiler worked separately

Diameter Length Thickness of shell plates Material Description of longitudinal joint Diam. of rivet holes Pitch of rivets Working pressure of shell by rules Diameter of flue Material of flue plates Thickness

If stiffened with rings Distance between rings Working pressure by rules End plates: Thickness How stayed

Working pressure of end plates Area of safety valves to superheater Are they fitted with easing gear

DONKEY BOILER— Description *No Donkey Boiler*

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 easing gear \_\_\_\_\_ If steam from main boilers 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:— *Two top end bolts. Two bottom end bolts. Two main beam bolts. One set Coupling bolts. One set Dead pump valves. One set Bilge pump valves. One set Check valves. Safety valve spring*

*The vessel effcient with masts and sails as a Hawker.*

The foregoing is a correct description,

*C. J. Holmes & Co* Manufacturer.

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

*The Machinery and Boiler of this Steam Hawker have been constructed under special survey and placed on board in accordance with the Society's Rules. They are now in my opinion in safe working condition and the case is respectfully submitted for the certification + L.M.C. 6-94 in the Register Book.*

It is submitted that this vessel is eligible for THE RECORD + L.M.C. 6-94

*W. A. [Signature]*  
18-7-94

Certificate (if required) to be sent to *Hull*  
The amount of Entry Fee.. £ 1 : 0 :  
Special .. .. £ 0 : 0 :  
Donkey Boiler Fee .. .. £ - : - :  
Travelling Expenses (if any) £ - : - :  
When applied for, *9/7/94*  
When received, *18-7-94*

*James Jones*  
Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

Committee's Minute *13 JUL 1894*

Assigned *+ L.M.C. 6-94*



© 2019

Lloyd's Register Foundation