

REPORT ON MACHINERY.

Port of *Leith*Received at London Office **THUR 25 JUL 1895** 18No. in Survey held at *Kinghorn*
Reg. Book.Date, first Survey *8th February* Last Survey *8th July, 1895*
(Number of Visits *12*)on the *Steam screw Lighter "Raith"*Tons $\left\{ \begin{array}{l} \text{Gross } 92.01 \\ \text{Net } 49.47 \end{array} \right.$
When built *1895*Master *John Scott & Co* Built at *Kinghorn* By whom built *John Scott & Co*Engines made at *Kinghorn* By whom made *John Scott & Co* when made *1895*Boilers made at *do* By whom made *do* when made *1895*Registered Horse Power *20* Owners *Kirkcaldy, Leith & Glasgow S.P. Co (Lim)* Port belonging to *Kirkcaldy*Nom. Horse Power as per Section 28 *✓*

ENGINES, &c.— Description of Engines *Inverted high pressure* No. of Cylinders *1*

Diameter of Cylinder *15"* Length of Stroke *15"* Revolutions per minute *120* Diameter of Screw shaft *as per rule ✓*
as fitted 4"

Diameter of Tunnel shaft *as per rule ✓* Diameter of Crank shaft journals *4 1/2"* Diameter of Crank pin *4 1/2"* Size of Crank webs *5 1/4" x 2 3/4"*
as fitted none

Diameter of screw *5' 6"* Pitch of screw *8' 0"* No. of blades *3* State whether moveable *no* Total surface *8 f*

No. of Feed pumps *1* Diameter of ditto *2"* Stroke *15"* Can one be overhauled while the other is at work *✓*

No. of Bilge pumps *1* Diameter of ditto *2"* Stroke *15"* Can one be overhauled while the other is at work *✓*

No. of Donkey Engines *One* Sizes of Pumps *3 3/4" x 2" x 4"* No. and size of Suctions connected to both Bilge and Donkey pumps
In Engine Room *One 1 1/4" dial.* In Hold, &c. *One 1 1/2" dial.*

No. of bilge injections *✓* sizes *✓* Connected to condenser, or to circulating pump *✓* Is a separate donkey suction fitted in Engine room & size *yes 1 1/4"*

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 *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 *Above*

Are they each fitted with a discharge valve always accessible on the plating of the vessel *no* 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 *New vessel* Is the screw shaft tunnel watertight *none*

Is it fitted with a watertight door *✓* worked from *✓*

BOILERS, &c.— (Letter for record *S*) Total Heating Surface of Boilers *165 f*

No. and Description of Boilers *See Donkey Boiler.* Working Pressure _____ Tested by hydraulic pressure to _____

Date of test _____ Can each boiler be worked separately _____ Area of fire grate in each boiler _____ No. and Description of safety valves to _____

each 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 diameter of boilers _____

Length _____ Material of shell plates _____ Thickness _____ Description of riveting: circum. 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 _____ 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 _____ Thickness of plates _____ Description of longitudinal joint _____ No. of strengthening rings _____

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

Pitch of stays to ditto: Sides _____ Back _____ Top _____ If stays are fitted with nuts or riveted heads _____ Working pressure by rules _____

Material of stays _____ Diameter at smallest part _____ Area supported by each stay _____ Working pressure by rules _____ End plates in steam space: _____

Material _____ Thickness _____ Pitch of stays _____ How are stays secured _____ Working pressure by rules _____ Material of stays _____

Diameter at smallest part _____ Area supported by each stay _____ Working pressure by rules _____ Material of Front plates at bottom _____

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 _____ 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 _____



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Main DONKEY BOILER— Description *One vertical cylindrical with two cross tubes.*
 Made at *Kinghorn* By whom made *John Scott & Co* When made *1895* Where fixed *Stokehold*
 Working pressure *80 lbs* tested by hydraulic pressure to *160 lbs* ^{Date of test} *20/6/95* Fire grate area *16 sq* Description of safety valves *Spring*
 No. of safety valves *2* Area of each *3.9 sq* Pressure to which they are adjusted *85 lbs* If fitted with easing gear *yes* If steam from main boilers can enter the donkey boiler *✓*
 Diameter of ~~donkey~~ boiler *6' 3"* Length *12' 0"* Material of shell plates *steel* Thickness *1/2"*
 Description of riveting long. seams *Lap, double riveted* Diameter of rivet holes *7/8"* Whether punched or drilled *drilled* Pitch of rivets *3 1/8"*
 Lap of plating *3 7/8"* Per centage of strength of joint Rivets *65.5* Thickness of shell crown plates *5/8"* Radius of do. *flat* No. of Stays to do. *7 gussets*
 Dia. of stays. *✓* Diameter of furnace Top *4' 6"* Bottom *5' 8 1/2"* Length of furnace *5' 4"* Thickness of furnace plates *19/32"* Description of joint *welded* Thickness of furnace crown plates *5/8"* Stayed by *5' 6" radius* Working pressure of shell by rules *97 lbs*
 Working pressure of furnace by rules *85 lbs* Diameter of uptake *18"* Thickness of uptake plates *1/2"* Thickness of water tubes *3/8"*
 SPARE GEAR. State the articles supplied:— *None required, a spare propeller supplied.*

The foregoing is a correct description,

Manufacturer.

John Scott & Co

General Remarks (State quality of workmanship, opinions as to class, &c. *The machinery of this vessel has been constructed under special survey, the materials & workmanship are found & good. The engine has been tried & the boiler safety valves adjusted under steam at the working pressure. The machinery is now in good & safe working condition & eligible in my opinion to have the notation of +LMC 7,95. The approved boiler tracing is forwarded herewith.*

It is submitted that this vessel is eligible for

THE RECORD. + LMC 7.95

ARR
25.7.95

Certificate (if required) to be *WRITTEN*

The amount of Entry Fee..	£ 1	:-	:-	When applied for,
Special	£ 8	:-	:-18.....
Donkey Boiler Fee	£ ✓	:-	:-	When received,
Travelling Expenses (if any)	£ 1	: 16	: 6	31.7.95.....18.....95.

Thomas Field.

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

Committee's Minute

FRI. 2 AUG 1895

Assigned

+ LMC 7.95



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