

# REPORT ON MACHINERY.

MON. JUN 29 1896

Port of *Leith*

Received at London Office

No. in Survey held at *Leith* Date, first Survey *19<sup>th</sup> Feb.* Last Survey *25<sup>th</sup> June 1896*  
eg. Book. (Number of Visits *28*)

on the *S. K. "County of Leith"* Gross *114.42*  
Tons } Net *22.07*  
Master Built at *Leith* By whom built *Hawthorne & Co* When built *1896*

Engines made at *Leith* By whom made *Hawthorne & Co* when made *1896*

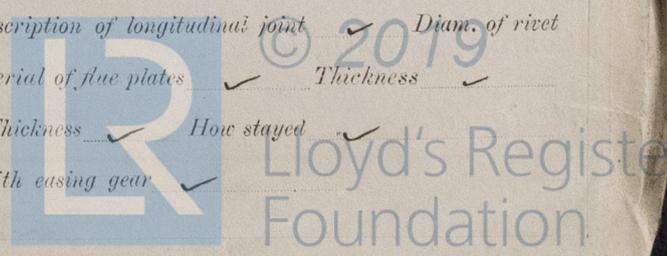
Boilers made at *Do* By whom made *Do* when made *1896*

Registered Horse Power *34* Owners *County Steam Line Fishing Co* Port belonging to *Kirkcaldy*

Unregistered Horse Power as per Section 28 *41*

**ENGINES, &c.**— Description of Engines *Compound, inverted* No. of Cylinders *2*  
 Diameter of Cylinders *14" & 29"* Length of Stroke *21"* Revolutions per minute *125* Diameter of Screw shaft *as per rule 5.7"*  
 Diameter of Tunnel shaft *as per rule 5.41"* Diameter of Crank shaft journals *6"* Diameter of Crank pin *6"* Size of Crank webs *11" x 4 1/2"*  
 Diameter of screw *6' 9"* Pitch of screw *9' 10 1/2"* No. of blades *4* State whether moveable *No* Total surface *18 f*  
 No. of Feed pumps *1* Diameter of ditto *2 1/8"* Stroke *11"* Can one be overhauled while the other is at work   
 No. of Bilge pumps *1* Diameter of ditto *2 1/8"* Stroke *11"* Can one be overhauled while the other is at work   
 No. of Donkey Engines *One* Sizes of Pumps *4 1/8" x 2 1/2" x 6"* No. and size of Suctions connected to both Bilge and Donkey pumps  
 Engine Room *Two, 2" dia. & ejector 2" dia.* In Holds, &c. *One 2" dia. & ejector 2" dia.*  
 No. of bilge injections *1* sizes *3 1/4"* Connected to condenser, or to circulating pump *Yes* Is a separate donkey suction fitted in Engine room & size *Yes 2" dia.*  
 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 *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*  
 How are pipes carried through the bunkers *Bilge suction to hold* How are they protected *By 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 *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 *745 f*  
 No. and Description of Boilers *One, cylindrical single ended* Working Pressure *120 lbs* Tested by hydraulic pressure to *240 lbs*  
 Date of test *4/6/96* Can each boiler be worked separately  Area of fire grate in each boiler *29 f* No. and Description of safety valves to  
 each boiler *Two, direct spring* Area of each valve *3.97 sq"* Pressure to which they are adjusted *120 lbs* Are they fitted  
 with easing gear *Yes* Smallest distance between boilers or uptakes and bunkers or woodwork *8"* Mean diameter of boilers *9' 5 25/32"*  
 Length *9' 3"* Material of shell plates *Steel* Thickness *25/32"* Description of riveting: circum. seams *Lap, & Riv'd long. seams Lap & Riv'd*  
 Diameter of rivet holes in long. seams *1 3/32"* Pitch of rivets *4"* Lap of plates or width of butt straps *7 3/8"*  
 Percentages of strength of longitudinal joint rivets *76.5-* Working pressure of shell by rules *124 lbs* Size of manhole in shell *16" x 12"*  
 Diameter of compensating ring *Mc Keils'* No. and Description of Furnaces in each boiler *2, plain* Material *Steel* Outside diameter *33 3/32"*  
 Length of plain part *top 6.4 ft* Thickness of plates *bottom 35/64"* Description of longitudinal joint *Welded* No. of strengthening rings *None*  
 Working pressure of furnace by the rules *127 lbs* Combustion chamber plates: Material *Steel* Thickness: Sides *1/2"* Back *1/2"* Top *1/2"* Bottom *5/8"*  
 Diameter of stays to ditto: Sides *8"* Back *8"* Top *8"* If stays are fitted with nuts or riveted heads *Nuts* Working pressure by rules *120 lbs*  
 Material of stays *Steel* Diameter at smallest part *1-19"* Area supported by each stay *64 sq"* Working pressure by rules *148 lbs* End plates in steam space:  
 Material *Steel* Thickness *3/4"* Pitch of stays *14 1/2"* How are stays secured *S. N. & W.* Working pressure by rules *127 lbs* Material of stays *Steel*  
 Diameter at smallest part *34 3/32"* Area supported by each stay *196 sq"* Working pressure by rules *157 lbs* Material of Front plates at bottom *Steel*  
 Thickness *3/4"* Material of Lower back plate *Steel* Thickness *3/4"* Greatest pitch of stays *13" 1/2" doubling* Working pressure of plate by rules *151 lbs*  
 Diameter of tubes *3 1/4"* Pitch of tubes *4 1/2"* Material of tube plates *Steel* Thickness: Front *3/4"* Back *3/4"* Mean pitch of stays *9"*  
 Working pressures by rules *183 lbs* Girders to Chamber tops: Material *Steel* Depth and  
 Thickness of girder at centre *5" x 1 1/2"* Length as per rule *1' 11"* Distance apart *7 1/2"* Number and pitch of Stays in each *2, 8"*  
 Working pressure by rules *143 lbs* Superheater or Steam chest; how connected to boiler *None* 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  
 Pitch of rivets  Working pressure of shell by rules  Diameter of flue  Material of flue plates  Thickness   
 Stays fitted 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 *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 easing 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:— *As per Rule.*

The foregoing is a correct description,  
*Hawthorn & Co. Manufacturer.*  
*James Bradman Engineer*

**General Remarks** (State quality of workmanship, opinions as to class, &c.) *The engine & boiler of this vessel have been constructed under special survey & the materials & workmanship are found & good. The engines have been tried & the boiler safety valves adjusted at the working pressure. The machinery is now in good & safe working condition & eligible in my opinion to have the notation of + L.M.C. 6, 96. The boiler tracing is forwarded herewith.*

*W. L. G.*

It is submitted that  
 this vessel is eligible for  
**THE RECORD + L.M.C. 6. 96**

*W. L. G.*  
 29. 6. 96.

Certificate (if required) to be sent to

The amount of Entry Fee.	£ /	:-	When applied for,
Special	£ 8	:-	26. June 1896
Donkey Boiler Fee	£ -	:-	When received,
Travelling Expenses (if any)	£ -	:-	27. 1896

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

Committee's Minute **TUES. JUN 30 1896**

Assigned *+ L.M.C. 6, 96*

The Surveyors are requested not to write on or below the space for Committee's Minute.

MACHINERY OF PLATE WRITTEN.