

REPORT ON MACHINERY.

THUR, 16 MAR 1899

Port of *Aberdeen*

Received at London Office 18

No. in Survey held at *Aberdeen* Date, first Survey *May 12th 98* Last Survey *March 14 1899*

Reg. Book. *303* on the *Main Boilers of the S.S. "Glen Gelder"* (Number of Visits *24*) Tons ^{Gross} *746* _{Net} *453*

Master *L.R.B. Smart* Built at *Aberdeen* By whom built *A. Hall & Co* When built *1881-2*

Engines made at *Aberdeen* By whom made *Hall Russell & Co* when made *1881-2*

Boilers made at *Aberdeen* By whom made *Hall Russell & Co* when made *1898-9*

Registered Horse Power *99* Owners *George Milne (of Locker & Son)* Port belonging to *Aberdeen*

Nom. Horse Power as per Section 28 Is Electric Light fitted *No*

ENGINES, &c.—Description of Engines *Compound* No. of Cylinders *2* No. of Cranks *2*

Diameter of Cylinders *19" & 49"* Length of Stroke *30* Revolutions per minute *80* Diameter of Screw shaft ^{as per rule} *9.25"* _{as fitted} *9.2"*

Diameter of Tunnel shaft ^{as per rule} *8.15"* _{as fitted} *8.2 & 8.2"* Diameter of Crank shaft journals *8.5 & 9.4"* Diameter of Crank pin *9.75"* Size of Crank webs

Diameter of screw *11-1"* Pitch of screw *15-9"* No. of blades *4* State whether moveable *No* Total surface *40.3 sq ft*

No. of Feed pumps Diameter of ditto Stroke Can one be overhauled while the other is at work

No. of Bilge pumps Diameter of ditto Stroke Can one be overhauled while the other is at work

No. of Donkey Engines Sizes of Pumps No. and size of Suctions connected to both Bilge and Donkey pumps

In Engine Room In Holds, &c.

No. of bilge injections sizes Connected to condenser, or to circulating pump Is a separate donkey suction fitted in Engine room & size

Are all the bilge suction pipes fitted with roses Are the roses in Engine room always accessible Are the sluices on Engine room bulkheads always accessible

Are all connections with the sea direct on the skin of the ship Are they Valves or Cocks

Are they fixed sufficiently high on the ship's side to be seen without lifting the stokehold plates Are the discharge pipes above or below the deep water line

Are they each fitted with a discharge valve always accessible on the plating of the vessel Are the blow off cocks fitted with a spigot and brass covering plate

What pipes are carried through the bunkers How are they protected

Are all pipes, cocks, valves, and pumps in connection with the machinery and all boiler mountings accessible at all times

Are the bilge suction pipes, cocks, and valves arranged so as to prevent any communication between the sea and the bilges

When were stern tube, propeller, screw shaft, and all connections examined in dry dock Is the screw shaft tunnel watertight

Is it fitted with a watertight door worked from

BOILERS, &c.— (Letter for record *S*) Total Heating Surface of Boilers *1456.8 sq ft* Is forced draft fitted *No*

No. and Description of Boilers *One ordinary Scotch type* Working Pressure *140* Tested by hydraulic pressure to *280*

Date of test *26/10/98* Can each boiler be worked separately Area of fire grate in each boiler *47.2 sq ft* No. and Description of safety valves to each boiler *2 spring* Area of each valve *8.290"* Pressure to which they are adjusted *140* Are they fitted with easing gear *Yes* Smallest distance between boilers or uptakes and bunkers or woodwork *12"* Mean diameter of boilers *13-0"*

Length *10-0"* Material of shell plates *steel* Thickness *15/16"* Description of riveting: circum. seams *double 3 1/2" pitch long. seams 3" pitch*

Diameter of rivet holes in long. seams *1 1/4"* Pitch of rivets *4"* Lap of plates width of butt straps *13 1/2" x 15/16" inside 13/16" outside*

Per centages of strength of longitudinal joint rivets *83.4%* Working pressure of shell by rules *143.5* Size of manhole in shell *16" x 12"* plate *82.1%*

Size of compensating ring *28" x 15"* No. and Description of Furnaces in each boiler *3 Plain* Material *steel* Outside diameter *39 1/4"*

Length of plain part ^{top} *6-0"* _{bottom} *6-0"* Thickness of plates ^{crown} *5/8"* _{bottom} *5/8"* Description of longitudinal joint *single butt straps 7.825" x 5/8" at end of bundle angle welded* No. of strengthening rings *none*

Working pressure of furnace by the rules *140* Combustion chamber plates: Material *steel* Thickness: Sides *1 1/2"* Back *1 1/2"* Top *1 1/2"* Bottom *5/8"*

Pitch of stays to ditto: Sides *1 1/2" x 8"* Back *8 1/2" x 8"* Top *8 1/2" x 7 1/8"* If stays are fitted with nuts or riveted heads *Nuts* Working pressure by rules *141*

Material of stays *steel* Diameter at smallest part *1 1/2"* Area supported by each stay *65.1 sq ft* Working pressure by rules *147* End plates in steam space: Material *steel* Thickness *3/8"* Pitch of stays *17" x 15"* How are stays secured *185 bolts* Working pressure by rules *141* Material of stays *steel*

Diameter at smallest part *2 7/16"* Area supported by each stay *255.0 sq ft* Working pressure by rules *148* Material of Front plates at bottom *steel*

Thickness *13/16"* Material of Lower back plate *steel* Thickness *13/16"* Greatest pitch of stays *12"* Working pressure of plate by rules *158*

Diameter of tubes *3 1/2"* Pitch of tubes *4 3/4" x 4 3/4"* Material of tube plates *steel* Thickness: Front *3/8"* Back *3/4"* Mean pitch of stays *9 1/2"*

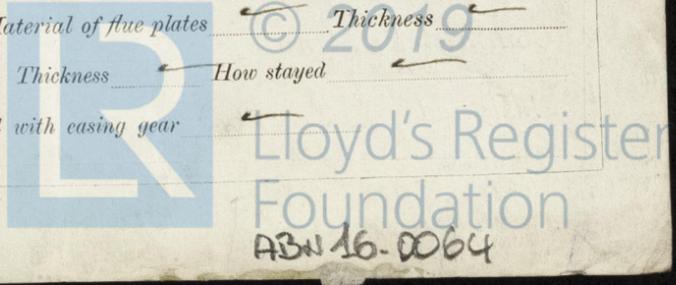
Pitch across wide water spaces *14 1/4"* Working pressures by rules *144* Girders to Chamber tops: Material *Iron* Depth and thickness of girder at centre *7 1/2" x 2"* Length as per rule *32"* Distance apart *8 1/2"* Number and pitch of Stays in each *3-7 1/8"*

Working pressure by rules *149* 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 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

If not...



no. Glen Gelder

no. Rept - to 6018

6016 AB

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:—

none

The foregoing is a correct description,

HALL, RUSSELL & CO., LTD.

Manufacturer of Boilers

James Hunter

Dates of Survey while building	During progress of work in shops - -	1898 - May 12 th - 20 - 26 June 29 - 15 - 23 - 30 July 6 - 14 - 27 Aug ²⁴ - 4 - 10 - 13 - 18
		" repts 6 - 12 - 22 - 28 Oct - 13 - 19 - 26
	During erection on board vessel - -	1899 - Feb 27 th March 13 - 14
	Total No. of visits	24

General Remarks (State quality of workmanship, opinions as to class, &c. *This Boiler has been*)

built - under special survey & the materials & workmanship are in accordance with the requirements of the rules, & the approved plan & are satisfactory in every way. It has been tested by water pressure, & after being fitted on board, steam was raised, & the safety valves adjusted to 140 lbs the working pressure -

The machinery is therefore eligible in my opinion to remain as classed, & to have the notation of + N.B. 3.99 recorded in the Reg's Book.

The approved plan of the main boiler is herewith attached.

Certificate (if required) to be sent to the Surveyors are requested not to write on or below the space for Committee's Minute.

The amount of Entry Fee..	£	:	:	When applied for,
Special	£	4	4	1899
Donkey Boiler Fee	£	:	:	When received,
Travelling Expenses (if any) £	:	:	:	1899

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

FRI, 17 MAR 1899

Committee's Minute

Assigned



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