

REPORT ON MACHINERY

SAT. JAN 5 1901

Port of *Greenock*

Received at London Office 18

No. in Survey held at *Greenock & Port Glasgow* Date, first Survey *20th Decr 1899* Last Survey *20th Decr 1900*Reg. Book. *sup*(Number of Visits *116*)79. on the *Screw steamer, "Alberta"*Tons { Gross *3959.75*,
Net *2576.46*.Master *A. Bussanich* Built at *Port Glasgow* By whom built *Russell & Co.*When built *1900*.Engines made at *Greenock* By whom made *Rankin & Blackmore*.when made *1900*.Boilers made at *do* By whom made *do*when made *1900*.Registered Horse Power Owners *Fratelli Bosulich*.Port belonging to *Trieste*Nom. Horse Power as per Section 28 *346*Is Refrigerating Machinery fitted *no*Is Electric Light fitted *no*.ENGINES, &c.—Description of Engines *Inverted Direct acting Triple Expansion* No. of Cylinders *Three* No. of Cranks *Three*Dia. of Cylinders *25" 41" 67"* Length of Stroke *45"* Revs. per minute *68* Dia. of Screw shaft *14 3/16"* Lgth. of stern bush *56 1/2"*Dia. of Tunnel shaft *12"* Dia. of Crank shaft journals *12 3/4"* Dia. of Crank pins *12 1/2"* Size of Crank webs *17" x 8 1/2"* Dia. of thrust shaft under-rollers *12 1/2"* Dia. of screw *1 7/8"* Pitch of screw *16" 9"* No. of blades *Four* State whether moveable *no* Total surface *93 sq. ft.*No. of Feed pumps *Two* Diameter of ditto *3 1/2"* Stroke *24"* Can one be overhauled while the other is at work *yes*.No. of Bilge pumps *Two* Diameter of ditto *4 1/2"* Stroke *24"* Can one be overhauled while the other is at work *yes*.No. of Donkey Engines *Two* Sizes of Pumps *12" x 10" & duplex 4 1/2" x 8"* No. and size of Suctions connected to both Bilge and Donkey pumpsIn Engine Room *Four 3 1/2"* In Holds, &c. *Eight 3 1/2" & one 2 1/2" in tunnel well.*No. of bilge injections *One* sizes *6" valve* Connected to condenser, or to circulating pump *circ pump* Is a separate donkey suction fitted in Engine room & size *yes. 3 1/2"*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*.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 *on ship before* Is the screw shaft tunnel watertight *yes*.Is it fitted with a watertight door *yes* worked from *Top platform*.BOILERS, &c.— (Letter for record *S*) Total Heating Surface of Boilers *4,534 sq. ft.* Is forced draft fitted *yes*.No. and Description of Boilers *Two Cylindrical & Multitubular* Working Pressure *180 lbs.* Tested by hydraulic pressure to *360 lbs.*Date of test *3.11.00*. Can each boiler be worked separately *yes* Area of fire grate in each boiler *53 1/2 sq. ft.* No. and Description of safety valves toeach boiler *Two direct spring* Area of each valve *9.62 sq. in.* Pressure to which they are adjusted *184 lbs.* Are they fitted with easing gear *yes*.Smallest distance between boilers or uptakes and bunkers or woodwork *23"* Mean dia. of boilers *14" 6"* Length *11" 6"* Material of shell plates *Steel*Thickness *1 5/32"* Range of tensile strength *29 to 32 tons* Are they welded or flanged *no* Descrip. of riveting: cir. seams *Lap double* long. seams *2 B Strap & double*Diameter of rivet holes in long. seams *1 1/4"* Pitch of rivets *8 3/4" x 4 3/8"* Lap of plates or width of butt straps *18 1/2" Straps*Percentages of strength of longitudinal joint rivets *94.7* Working pressure of shell by rules *183 lbs.* Size of manhole in shell *18" x 12"*Diameter of compensating ring *30" x 26" x 1 5/32"* No. and Description of Furnaces in each boiler *Three Dightens* Material *Steel* Outside diameter *49"*Length of plain part top *19"* Thickness of plates crown *32"* Description of longitudinal joint *Welded* No. of strengthening rings *—*Working pressure of furnace by the rules *192 lbs.* Combustion chamber plates: Material *Steel* Thickness: Sides *9/16"* Back *9/16"* Top *19/32"* Bottom *3/4"*No. of stays to ditto: Sides *7 3/4" x 7 3/4"* Back *7 1/2" x 7 3/4"* Top *8" x 8"* If stays are fitted with nuts or riveted heads *nuts* Working pressure by rules *182 to 214 lbs.*Material of stays *Steel* Diameter at smallest part *1 1/2" 1 3/8" 1 1/2"* Area supported by each stay *52 to 78 sq. in.* Working pressure by rules *182 to 203 lbs.* End plates in steam space:Material *Steel* Thickness *1"* Pitch of stays *16 3/8" x 15 1/4"* How are stays secured *double nut* Working pressure by rules *182 lbs.* Material of stays *Steel*Diameter at smallest part *2 7/16"* Area supported by each stay *246 sq. in.* Working pressure by rules *193 lbs.* Material of Front plates at bottom *Steel*Thickness *3/4"* Material of Lower back plate *Steel* Thickness *13/16"* Greatest pitch of stays *12 1/2" to 13 3/4"* Working pressure of plate by rules *183 lbs.*Diameter of tubes *2 1/2"* Pitch of tubes *3 5/8" x 3 3/4"* Material of tube plates *Steel* Thickness: Front *3 1/2" x 2" double* Back *3/4"* Mean pitch of stays *9 3/16" & 7 3/8"*Pitch across wide water spaces *13 3/4"* Working pressures by rules *204 lbs.* Girders to Chamber tops: Material *Steel* Depth andThickness of girder at centre *10 3/4" x 8" double* Length as per rule *34"* Distance apart *8"* Number and pitch of Stays in each *Three 8"*Working pressure by rules *202 lbs.* Superheater or Steam chest; how connected to boiler *—* Can the superheater be shut off and the boiler workedseparately *—* Diameter *—* Length *—* Thickness of shell plates *—* Material *—* Description of longitudinal joint *—* Diam. of rivetholes *—* 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 *—*

GRK 354-0089

DONKEY BOILER— No. Description *see Glasgow report No 18497, attached,*
 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 *no* Dia. of donkey boiler Length Material of shell plates Thickness Range of tensile strength Descrip. of riveting long. seams Dia. 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:— *1 propeller. 1 screw shaft. 12 shaft coupling bolts & nuts. 2 do for top & bottom ends. 2 do for main bearings. 6 do for holding down. 6 junk ring pins. 6 studs & nuts for cylinder covers. 6 do for valve chest covers. 2 feed & 2 bilge pump valves. 3 cylinder escape valves & springs. 1 do for feed pumps. 1 set safety valve & springs.*

The foregoing is a correct description,

Ranther MacKinnon Manufacturer.

Dates of Survey while building	{	During progress of work in shops—	1899. Dec 20-1900. Jan 9. 11. 15. 22. 25. 30 Feb 1. 6. 9. 14. 20. 22. 26. Mar. 2. 21. 23. 26. 30.
		During erection on board vessel—	April 4. 6. 11. 14. 26. 30. May 2. 4. 8. 10. 14. 17. 21. 23. 26. 29. 31. June. 2. 5. 7. 9. 11. 13. 15.
			July 2. 16. 18. 20. 23. 25. 26. 28. 31. Aug. 2. 6. 8. 13. 16. 18. 22. 24. 27. 29. 30. Sept. 4. 8. 12. 14. 17.
		Total No. of visits	Oct 1. 4. 6. 11. 16. 18. 20. 22. 23. 25. 29. 30. 31. Nov 2. 3. 5. 6. 9. 15. 21. 22. 23. 26. 27. 28. 29. Dec. 3. 4. 5. 6. 7. 8. 10. 11. 13. 18. 19. 20.

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Is the approved plan of main boiler forwarded herewith *yes*
 " " " donkey " " " *yes*

Greenock

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

*These Engines & Boilers have been constructed under special survey workmanship good. Thrust. intermediate & screw shafts examined when being turned and found apparently sound. Main steam pipes tested by hydraulic pressure to 400 lbs per sq. inch. tests satisfactory. The Engines & Boilers are satisfactorily fitted in vessel & have been tested under full steam. They are now in good order & safe working condition & are in our opinion eligible to be noted in Register Book. **LMC, 12.00.***

This vessel's main boilers are fitted with Howden's system of forced draught.

Spare gear continued.

12 Condenser tubes & 120 packing ferrules. 1 set Ramsbottom rings for HP & IP pistons. 1 set of air & circulating pump valves. 1 set fire bar. a quantity of bolts nuts & iron assorted.

It is submitted that this vessel is eligible for THE RECORD. **LMC 12.00. 7.8.**

The amount of Entry Fee..	£ 3 :	When applied for,
Special ..	£ 37 : 6 :	20.12.1900.
Donkey Boiler Fee ..	£ " :	When received,
Travelling Expenses (if any) £	" :	21.12.1900.

Committee's Minute

Assigned

Glasgow. 4-JAN.1901

LMC 12.00

A. C. Meron & R. Elliott
 Engineer Surveyors to Lloyd's Register of British & Foreign Shipping.
 Greenock District.

Lloyd's Register Foundation

SHIPBUILDER'S CERTIFICATE WRITTEN. 3/1/01