

REPORT ON MACHINERY.

No. 23346

Received at London Office 27 JAN 1911

Writing Report *Jan 19 1911* When handed in at Local Office *Jan 26 1911* Port of *Hull*
 in Survey held at *Hull* Date, First Survey *Jan 6/09* Last Survey *Jan 25 1911*
 Book. *S. S. TINTO* (Number of Visits *57*) Gross Tons *757*
 on the *S. S. TINTO* Net Tons *311*
 Built at *Dundee* By whom built *Dundee S.B. & Co.* When built *1910*
 Engines made at *Hull* By whom made *Andrew Smith (Ld.)* when made *1911*
 Silers made at *S.* By whom made *S.* when made *S.*
 Registered Horse Power *-* Owners *J. Wilson Snow & Co.* Port belonging to *Hull*
 m. Horse Power as per Section 28 *109* Is Refrigerating Machinery fitted for cargo purposes *No.* Is Electric Light fitted *No.*

GINES, &c.—Description of Engines *Inserted triple expansion* No. of Cylinders *3* No. of Cranks *3*
 a. of Cylinders *15 1/2 - 25 - 42* Length of Stroke *27* Revs. per minute *93* Dia. of Screw shaft *8 1/2* Material of screw shaft *Steel*
 the screw shaft fitted with a continuous liner the whole length of the stern tube *Yes* Is the after end of the liner made water tight
 the propeller boss *Yes* If the liner is in more than one length are the joints burned *Yes* If the liner does not fit tightly at the part
 between the bearings in the stern tube, is the space charged with a plastic material insoluble in water and non-corrosive *Yes* If two
 ers are fitted, is the shaft lapped or protected between the liners *Yes* Length of stern bush *3' 2 1/2"*
 ia. of Tunnel shaft *7' 5 1/2"* Dia. of Crank shaft journals *7' 9 1/4"* Dia. of Crank pin *8 1/2"* Size of Crank webs *6 x 5 1/2"* Dia. of thrust shaft under
 lars *8 1/2"* Dia. of screw *1 1/2"* Pitch of Screw *11' 3"* No. of Blades *4* State whether moveable *No.* Total surface *40 ft²*
 o. of Feed pumps *2* Diameter of ditto *2 1/2"* Stroke *18"* Can one be overhauled while the other is at work *Yes*
 o. of Bilge pumps *2* Diameter of ditto *2 1/2"* Stroke *18"* Can one be overhauled while the other is at work *Yes*
 o. of Donkey Engines *Two* Sizes of Pumps *6 x 4 1/2 x 6"* *7 1/2 x 8 x 8"* No. and size of Suctions connected to both Bilge and Donkey pumps
 Engine Room *3* (Port *2'* Centre *2 1/2'* Starboard *2'*) Tunnel *2 1/2'* In Holds, &c. *4* (Fore hold Port *2'* Centre *2 1/2'* Starboard *2'*)
 After hold *2 1/2'*
 o. of Bilge Injections *1* sizes *3 1/2"* Connected to condenser, or to circulating pump *Yes* Is a separate Donkey Suction fitted in Engine room & size *2 1/2"*
 re 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*
 re all connections with the sea direct on the skin of the ship *Yes* Are they Valves or Cocks *Both*
 re 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*
 re 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*
 That pipes are carried through the bunkers *Hold Suctions* How are they protected *Wood casing*
 re all Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times *Yes*
 re the Bilge Suction Pipes, Cocks, and Valves arranged so as to prevent any communication between the sea and the bilges *Yes*
 Dates of examination of completion of fitting of Sea Connections *3/10/10* of Stern Tube *6.9.10* Screw shaft and Propeller *20.12.10*
 the Screw Shaft Tunnel watertight *Yes* Is it fitted with a watertight door *Yes* worked from *Top platform*

ILERS, &c.—(Letter for record *S*) Manufacturers of Steel *Phoenix & Co. Dundee*
 Total Heating Surface of Boilers *1820 ft²* Is Forced Draft fitted *No.* No. and Description of Boilers *2 S.E. Muehleisen*
 Working Pressure *180 lbs.* Tested by hydraulic pressure to *360 lbs.* Date of test *26.9.10* No. of Certificate *1772*
 Can each boiler be worked separately *Yes* Area of fire grate in each boiler *33 ft²* No. and Description of Safety Valves to
 each boiler *2 Spring loaded* Area of each valve *3.976* Pressure to which they are adjusted *183 lbs.* Are they fitted with easing gear *Yes*
 Smallest distance between boilers or uptakes and bunkers or woodwork *18"* Mean dia. of boilers *10' 9"* Length *10' 0"* Material of shell plates *Steel*
 Thickness *3"* Range of tensile strength *29-33* Are the shell plates welded or flanged *No.* Descrip. of riveting: cir. seams *SA Lap*
 long. seams *SA S with* Diameter of rivet holes in long. seams *3 1/2"* Pitch of rivets *6.6"* Lap of plates or width of butt straps *14"*
 Per centages of strength of longitudinal joint *94.9* Working pressure of shell by rules *183* Size of manhole in shell *16 x 12"*
 Size of compensating ring *40 x 30 x 3"* No. and Description of Furnaces in each boiler *2 plain* Material *Steel* Outside diameter *3' 1 1/2"*
 Length of plain part *77'* Thickness of plates *49'* Description of longitudinal joint *Welded* No. of strengthening rings *-*
 Working pressure of furnace by the rules *203* Combustion chamber plates: Material *Steel* Thickness: Sides *4"* Back *4"* Top *4"* Bottom *4"*
 Pitch of stays to ditto: Sides *8 1/2 x 9"* Back *8 1/2 x 9"* Top *7 3/4 x 10"* If stays are fitted with nuts or riveted heads *Nuts* Working pressure by rules *214*
 Material of stays *Steel* Diameter at smallest part *1 1/4"* Area supported by each stay *76.5* Working pressure by rules *207* End plates in steam space *-*
 Material *Steel* Thickness *3"* Pitch of stays *25 x 15 1/2"* How are stays secured *By hook* Working pressure by rules *182* Material of stays *Steel*
 Diameter at smallest part *3.54* Area supported by each stay *196.5* Working pressure by rules *198* Material of Front plates at bottom *Steel*
 Thickness *3"* Material of Lower back plate *Steel* Thickness *3"* Greatest pitch of stays *4 x 8 1/2"* Working pressure of plate by rules *196*
 Diameter of tubes *3 1/2"* Pitch of tubes *4 1/2 x 4 3/8"* Material of tube plates *Steel* Thickness: Front *3"* Back *13"* Mean pitch of stays *9 1/2"*
 Pitch across wide water spaces *14"* Working pressures by rules *289* Girders to Chamber tops: Material *Steel* Depth and
 thickness of girder at centre *8 1/2 x 13"* Length as per rule *2' 6"* Distance apart *10"* Number and pitch of stays in each *207 1/2"*
 Working pressure by rules *201* 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 *-*

VERTICAL DONKEY BOILER— Manufacturers of Steel

No.	Description				
Made at	By whom made		When made	Where fixed	
Working pressure	tested by hydraulic pressure to	Date of test	No. of Certificate	Fire grate area	Description of S
Valves	No. of Safety Valves	Area of each	Pressure to which they are adjusted	Date of adjustment	
If fitted with easing gear	If steam from main boilers can enter the donkey boiler		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	
Working pressure of shell by rules	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	
Working pressure of furnace by rules	Thickness of furnace crown plates	Radius of do.	Stayed by		
Diameter of uptake	Thickness of uptake plates	Thickness of water tubes	Dates of survey		

SPARE GEAR. State the articles supplied :— Two tops two bottom end connecting rod bolts one
 Two main bearing bolts, one set of coupling bolts & nuts, one set of feed & bilge
 pump valves, one main & one donkey feed check valve, 1/2 set of air & circulation
 pump valves, one propeller, assorted bolts & nuts.
 The foregoing is a correct description, FOR AMOS & SMITH LTD.

Manufacturer.		Managing Director.
Dates of Survey while building	During progress of work in shops --	1910: Jun 6. 9. 14. 17. 21. 24. 28. July 12. 15. 19. 22. 25. 28. 30. Aug 2. 4. 10. 15. 19. 22. 25.
	During erection on board vessel --	Aug 29. Sep 3. 8. 10. 14. 17. 21. 23. 26. Oct 3. 6. 8. 13. 14. 17. 22. 27. 31. Nov 5. 9. 10. Dec 2. 13. 19. 20.
	Total No. of visits	57
Is the approved plan of main boiler forwarded herewith		yes
" " " donkey " "		

Dates of Examination of principal parts—Cylinders 27. 8. 10. Slides 17. 9. 10. Covers 27. 8. 10. Pistons 27. 8. 10. Rods 27. 8. 10
 Connecting rods 8. 9. 10. Crank shaft 3. 9. 10. Thrust shaft 3. 9. 10. Tunnel shafts 10. 9. 10. Screw shaft 3. 9. 10. Propeller 3. 9. 10
 Stern tube 3. 9. 10. Steam pipes tested 3. 1. 11. Engine and boiler seatings 19. 12. 10. Engines holding down bolts 28. 12. 10
 Completion of pumping arrangements 12. 1. 11. Boilers fixed 4. 1. 11. Engines tried under steam 4. 1. 11.
 Main boiler safety valves adjusted 4. 1. 11. Thickness of adjusting washers S { 5 1/2 P { 5 3/8
 Material of Crank shaft Steel. Identification Mark on Do. 3. 9. 10. Material of Thrust shaft Steel. Identification Mark on Do. 3. 9. 10
 Material of Tunnel shafts Steel. Identification Marks on Do. 10. 9. 10. Material of Screw shafts Steel. Identification Marks on Do. 3. 9. 10
 Material of Steam Pipes Solid drawn copper. Test pressure 360 lbs.

General Remarks (State quality of workmanship, opinions as to class, &c. The machinery & boilers of
 this vessel have been constructed under Special Survey,
 are of good material & workmanship & have been fitted &
 secured on board in accordance with the Rules.
 They are now in good working condition & eligible in my
 opinion to have record of T. L. N. C. 1-11 in the Register
 Book.

It is submitted that
 this vessel is eligible for
 THE RECORD + L.M.C.I.H.

The amount of Entry Fee .. £ 2	When applied for,
Special 16	26. 1. 1911
Donkey Boiler Fee 2	When received,
Travelling Expenses (if any) £	31. 1. 1911

Committee's Minute
 Assigned.

John W. Gwynne
 Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.
 27/1/11
 TUE. 31 JAN 1911
 + L.M.C.I.H.

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