

# REPORT ON MACHINERY.

No. 23346

Received at London Office **FRI. 27 JAN 1911**

of 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) Tons { Gross 757 Net 311  
 Built at Dundee By whom built Dundee S.B. & Co. When built 1910  
 Engines made at Hull By whom made Amoss Smith (Ld.) when made 1911  
 Meters 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.

**ENGINES, &c.**—Description of Engines Inverted 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 9/32 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  
 bearings are fitted, is the shaft lapped or protected between the liners Yes Length of stern bush 3' 2 1/2"  
 Dia. of Tunnel shaft 7 5/8 as per rule 7 5/8 Dia. of Crank shaft journals 7 9/16 as per rule 7 9/16 Dia. of Crank pin 8 1/4 Size of Crank webs 6 x 5 1/2 Dia. of thrust shaft under  
 bars 8 1/4 Dia. of screw 1 1/2 Pitch of Screw 11' 3" No. of Blades 4 State whether moveable No. Total surface 40 ft<sup>2</sup>  
 a. of Feed pumps 2 Diameter of ditto 2 1/2 Stroke 18 Can one be overhauled while the other is at work Yes  
 a. of Bilge pumps 2 Diameter of ditto 2 1/2 Stroke 18 Can one be overhauled while the other is at work Yes  
 a. 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 1/2) Tunnel 2 1/2 In Holds, &c. 4 (Fore hold Port 2 Centre 2 1/2 Starboard 2)  
After hold 2 1/2  
 a. 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  
 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  
 That pipes are carried through the bunkers Hold Suctions 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  
 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  
 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) Manufacturers of Steel Phoenix & Howard  
 Total Heating Surface of Boilers 1820 ft<sup>2</sup> 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 ft<sup>2</sup> 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 3/8" 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 3/32" Pitch of rivets 6.6" Lap of plates or width of butt straps 14"  
 Per centages of strength of longitudinal joint  
 rivets 94.9 Working pressure of shell by rules 183 Size of manhole in shell 16 x 12"  
 plate 85.2  
 Size of compensating ring 40 x 30 x 3/8" No. and Description of Furnaces in each boiler 2 plain Material Steel Outside diameter 3' 1 1/2"  
 Length of plain part top 77" Thickness of plates crown 3/4" Description of longitudinal joint Welded No. of strengthening rings 1  
 bottom 71.5 bottom 3/4"  
 Working pressure of furnace by the rules 203 Combustion chamber plates: Material Steel Thickness: Sides 4/16" Back 4/16" Top 4/16" Bottom 4/16"  
 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 None 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 3/8" Pitch of stays 25 1/2 x 15 1/2" How are stays secured By washers Working pressure by rules 182 Material of stays Steel  
 Diameter at smallest part 3.54 Area supported by each stay 196 ft<sup>2</sup> Working pressure by rules 198 Material of Front plates at bottom Steel  
 Thickness 3/8" Material of Lower back plate Steel Thickness 3/8" 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 9/16" Material of tube plates Steel Thickness: Front 3/8" Back 13/16" 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 Yes  
 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 \_\_\_\_\_ Rivets \_\_\_\_\_ Plates \_\_\_\_\_

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. *Amos & Smith Ltd.* 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. *677 39.10* Material of Thrust shaft *Steel.* Identification Mark on Do. *677 39.10*  
 Material of Tunnel shafts *Steel.* Identification Marks on Do. *677 39.10* Material of Screw shafts *Steel.* Identification Marks on Do. *677 39.10*  
 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.*

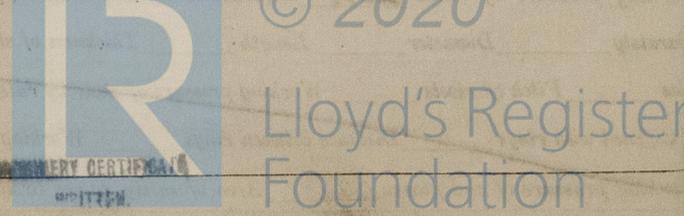
It is submitted that this vessel is eligible for THE RECORD + L.M.C.I.H.

*J.W.D.* 27/1/11

The amount of Entry Fee .. £ 2 : 00 When applied for, 26.1.11  
 Special .. £ 16 : 7 0  
 Donkey Boiler Fee .. £ 2 : - : -  
 Travelling Expenses (if any) £ : - : -  
 When received, 31/1/11

*John W. Gwynne*  
 Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

Committee's Minute TUE, 31 JAN 1911  
 Assigned. + 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.