Rpt. 4.

REPORT ON MACHINERY.

No. 25544

Received at London Office FRI. OCT. 18. 1912

Date of writing Report Oct 11 19 12 When handed in at Local Office 15·10 19 12 Port of Hull

No. in Reg. Book. Survey held at Hull. Date, First Survey July 11th Last Survey Oct 11th 1912 (Number of Visits 24)

12 Supp on the S/Trawler INGOLFUR ARNARSON. Tons Gross 316 Net 144

Master Built at Selby. By whom built Cochrane & Sons When built 1912

Engines made at Hull. By whom made Amos & Smith Ltd when made 5

Boilers made at 5 By whom made 5 when made 5

Registered Horse Power — Owners P. J. Thorsteinsson Port belonging to Reykjavik

Nom. Horse Power as per Section 28 88 Is Refrigerating Machinery fitted for cargo purposes No. Is Electric Light fitted Yes

ENGINES, &c.—Description of Engines Inverted triple expansion No. of Cylinders 3 No. of Cranks 3

Dia. of Cylinders 13· 22½· 37· Length of Stroke 26 Revs. per minute — Dia. of Screw shaft as per rule 7·73 as fitted 8· Material of screw shaft Iron

Is 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 in the propeller boss Yes. If the liner is in more than one length are the joints burned — 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 — If two liners are fitted, is the shaft lapped or protected between the liners — Length of stern bush 33·

Dia. of Tunnel shaft as per rule 6·78 as fitted 7· Dia. of Crank shaft journals as per rule 7·1 as fitted 7½· Dia. of Crank pin 7½· Size of Crank webs 14¾·4¾· Dia. of thrust shaft under collars 7½· Dia. of screw 9'-8· Pitch of Screw 10'-9· No. of Blades 4 State whether moveable Yes Total surface 34 ft.

No. of Feed pumps Two. Diameter of ditto 2⅞· Stroke 12· Can one be overhauled while the other is at work Yes

No. of Bilge pumps Two Diameter of ditto 2⅞· Stroke 12 Can one be overhauled while the other is at work Yes

No. of Donkey Engines Two. Sizes of Pumps 4¾·×3½·×4¾·–6½·×4¾·×6 No. and size of Suctions connected to both Bilge and Donkey pumps In Engine Room 2·2· 5in & Aft In Holds, &c. 2·2· Fish room & Shaft well. 1·2· Ejector suction & all bilges with discharge overboard

No. of Bilge Injections 1 sizes 3· Connected to condenser, or to circulating pump pump Is a separate Donkey Suction fitted in Engine room & size 2· Ejector

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

What 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 16. 7. 12 of Stern Tube 16. 7. 12 Screw shaft and Propeller 16. 7. 12

Is the Screw Shaft Tunnel watertight None. Is it fitted with a watertight door — worked from —

BOILERS, &c.—(Letter for record S) Manufacturers of Steel Wm Beardmore & Co.

Total Heating Surface of Boilers 1520 ft Is Forced Draft fitted No. No. and Description of Boilers 1. S.E. Multitubular

Working Pressure 180 Tested by hydraulic pressure to 360 lbs. Date of test 24.9.12 No. of Certificate 1928.

Can each boiler be worked separately — Area of fire grate in each boiler 48 ft. No. and Description of Safety Valves to each boiler 2 Spring loaded. Area of each valve 5·94 in. Pressure to which they are adjusted 185 lbs. Are they fitted with easing gear Yes

Smallest distance between boilers or uptakes and bunkers or woodwork 9· Mean dia. of boilers 13'-6· Length 10'-6 Material of shell plates Steel.

Thickness 1/16· Range of tensile strength 29-33 tons Are the shell plates welded or flanged No. Descrip. of riveting: cir. seams D.R. Lap long. seams D.B.S. welt Diameter of rivet holes in long. seams 1⅛· Pitch of rivets 7·77· ~~Lap of plates~~ or width of butt straps 16¾·

Per centages of strength of longitudinal joint rivets 87 plate 88·5 Working pressure of shell by rules 182 Size of manhole in shell 16·×12·

Size of compensating ring 40×30×1/16· No. and Description of Furnaces in each boiler 3 plain Material Steel. Outside diameter 3·4¼

Length of plain part top 80 bottom 74·5 Thickness of plates crown 25/32· bottom 25/32 Description of longitudinal joint welded No. of strengthening rings —

Working pressure of furnace by the rules 190. Combustion chamber plates: Material Steel. Thickness: Sides 11/16· Back 11/16· Top 11/16· Bottom 11/16·

Pitch of stays to ditto: Sides 9½×7· 9¼" Back 8½×10· Top 8½×8½· If stays are fitted with nuts or riveted heads Nuts Working pressure by rules 186

Material of stays Steel. Diameter at smallest part 1⅜=2·24 Area supported by each stay 108·75 Working pressure by rules 198. End plates in steam space: ~~Screwed ends and plate~~ Material Steel. Thickness 1/16· Pitch of stays 17½×17· How are stays secured Nuts and Washers Working pressure by rules 202 Material of stays Steel.

Diameter at smallest part 6·1· Area supported by each stay 298 in. Working pressure by rules 216 Material of Front plates at bottom Steel.

Thickness 31/32· Material of Lower back plate Steel. Thickness ⅞· Greatest pitch of stays 14×10· Working pressure of plate by rules 180.

Diameter of tubes 3½· Pitch of tubes 4¾·×4⅞· Material of tube plates Steel. Thickness: Front 31/32· Back ⅞· Mean pitch of stays 9⅝·

Pitch across wide water spaces 14· Working pressures by rules 180 Girders to Chamber tops: Material Steel. Depth and thickness of girder at centre 9×1½· Length as per rule 2'-8· Distance apart 8½· Number and pitch of stays in each 2 @ 8½·

Working pressure by rules 202. 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, state whether, and when, one will be sent?

In a Report also sent on the Hull of the Ship?

Im.A.11.—T.

W493-0274

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 Safety 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 top & two bottom end connecting rod bolts & nuts, two main bearing bolts & nuts, one set of coupling bolts & nuts one set of feed & bilge pump valves, one set of air pump valves, one main & one donkey feed check valve, assorted bolts & nuts

The foregoing is a correct description,

FOR AMOS & SMITH LTD.

Manufacturer.

Dates of Survey while building — *During progress of work in shops* 1912:- July 11.16.18.23.25.30. Aug 7.12.21.28.30. Sep 9.18.23.24 *During erection on board vessel* Sep 27 Oct 2.3.4.7.8.9.10.11. *Total No. of visits* 24

Managing Director.

Is the approved plan of main boiler forwarded herewith Yes ✓

" " " donkey " " " ✓

***Dates of Examination of principal parts*—** *Cylinders* 28.8.12 *Slides* 30.8.12 *Covers* 28.8.12 *Pistons* 28.8.12 *Rods* 21.8.12 *Connecting rods* 21.8.12 *Crank shaft* 7.8.12 *Thrust shaft* 11.7.12 *Tunnel shafts* 11.7.12 *Screw shaft* 11.7.12 *Propeller* 11.7.12 *Stern tube* 11.7.12 *Steam pipes tested* 4.10.12 *Engine and boiler seatings* 2.10.12 *Engines holding down bolts* 2.10.12 *Completion of pumping arrangements* 11.10.12 *Boilers fixed* 4.10.12 *Engines tried under steam* 8.10.12 *Main boiler safety valves adjusted* 8.10.12 *Thickness of adjusting washers* P 13/32 S 7/16

Material of Crank shaft Steel. *Identification Mark on Do.* 902 7.8.12 S.W.G *Material of Thrust shaft* Steel. *Identification Mark on Do.* 902 11.7.12 S.W.G

Material of Tunnel shafts Steel. *Identification Marks on Do.* 902 11.7.12 S.W.G ✓ *Material of Screw shafts* Iron *Identification Marks on Do.* 902 11.7.12 S.W.G

Material of Steam Pipes Solid drawn copper *Test pressure* 400lbs. ✓

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 & respectfully submitted as being eligible in my opinion to have assigned + L.M.C. 10-12 in the Register Book.

Certificate (if required) to be sent to Hull

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

It is submitted that this vessel is eligible for THE RECORD + LMC. 10.12.

J.W.R. 18/10/12

J.M.

John W. Rayne.

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

The amount of Entry Fee .. £ 1 : 0 : 0. When applied for, 17.10.12

Special .. .. .. £ 13 . 4 . 0

Donkey Boiler Fee .. .. £ : :

Travelling Expenses (if any) £ : 8 : 2 When received, 31.10.12

Committee's Minute TUE. OCT. 22. 1912

Assigned + L.M.C. 10.12

MACHINERY CERTIFICATE WRITTEN.