Rpt. 4.

Hull Rpt No. 29952

REPORT ON MACHINERY. No. 36828

Date of writing Report 4-4-1914. When handed in at Local Office 4-4-1914. Received at London Office WED. 15 APR 1914. Port of Glasgow.

No. in Reg. Book. — on the Triple expansion engine for yess. S.S. "SPRINGWELL" Date, First Survey 1st March 1916 Last Survey 24-3-1914 (Number of Visits 12) Tons Gross 285.66 Net 112.50

Master — Built at Goole — By whom built The Goole Ship'bg Co No 143 — When built 1914.

Engines made at Coalbridge — By whom made Wm Beardmore & Co No 4509 — when made 1914.

Boilers made at Hull — By whom made R. D. Holmes & Co Ltd No 1144 — when made 1914.

Registered Horse Power — Owners Sun Steam Trawling Co Ltd — Port belonging to Hull.

Nom. Horse Power as per Section 28 80 — Is Refrigerating Machinery fitted for cargo purposes No — Is Electric Light fitted No

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

Dia. of Cylinders 12½", 21", 35" — Length of Stroke 24 — Revs. per minute 105. — Dia. of Screw shaft as per rule 7.76 / as fitted 8" — Material of screw shaft S.

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 yes — If two liners are fitted, is the shaft lapped or protected between the liners —

Dia. of Tunnel shaft as per rule 6.9" / as fitted None — Dia. of Crank shaft journals as per rule 4¼" / as fitted 4 3/8" — Dia. of Crank pin 4 3/8" — Size of Crank webs 14¾" 14½" — Length of stern bush 2-9" — Dia. of thrust shaft under collars 4 3/8" — Dia. of screw 9-6" — Pitch of Screw 11-6"

No. of Blades 4 — State whether moveable No — Total surface 34 sq ft

No. of Feed pumps 1 — Diameter of ditto 2¾" — Stroke 13½" — Can one be overhauled while the other is at work —

No. of Bilge pumps 1 — Diameter of ditto 2¾" — Stroke 13½" — Can one be overhauled while the other is at work —

No. of Donkey Engines Two & 3 EJECTOR — Sizes of Pumps 5" Centrifugal & 3"×6" Flywheel — No. and size of Suctions connected to both Bilge and Donkey pumps In Engine Room 2-2" (Eng Room aft & forward) In Holds, &c. 4-2" (No 1 & 2 Slushwell & No 1 & 2 hold. (all suctions connected to ejector)

No. of Bilge Injections 1 — sizes 3½" — Connected to condenser, or to circulating pump C. P. — Is a separate Donkey Suction fitted in Engine room & size yes 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 —

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 None Forward Suctions — How are they protected Wood casings & iron plates

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 20-3-17 — of Stern Tube 20-3-17. — Screw shaft and Propeller 21-3-17

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

Total Heating Surface of Boilers 1323 sq ft — Is Forced Draft fitted — No. and Description of Boilers 1 Single ended marine

Working Pressure 200 lbs — Tested by hydraulic pressure to 400 lbs — Date of test — No. of Certificate

Can each boiler be worked separately — Area of fire grate in each boiler — No. and Description of Safety Valves to each boiler — Area of each valve — Pressure to which they are adjusted — Are they fitted with easing gear

Smallest distance between boilers or uptakes and bunkers or woodwork — Mean dia. of boilers — Length — Material of shell plates

Thickness — Range of tensile strength — Are the shell plates welded or flanged — Descrip. of riveting: cir. seams

long. seams — Diameter of rivet holes in long. seams — Pitch of rivets — Lap of plates or width of butt straps

Percentages of strength of longitudinal joint rivets — plate — Working pressure of shell by rules — Size of manhole in shell

Size of compensating ring — No. and Description of Furnaces in each boiler — Material — Outside diameter

Length of plain part top — bottom — Thickness of plates crown — bottom — Description of longitudinal joint — No. of strengthening rings

Working pressure of furnaces by the rules — Combustion chamber plates: Material — Thickness: Sides — Back — Top — Bottom

Pitch of stays to ditto: Sides — Back — Top — If stays are fitted with nuts or riveted heads — Working pressure by rules

Material of stays — Diameter at smallest part — Area supported by each stay — Working pressure by rules — End plates in steam space:

Thickness — Thickness — Pitch of stays — How are stays secured — Working pressure by rules — Material of stays

Diameter at smallest part — Area supported by each stay — Working pressure by rules — Material of Front plates at bottom

Thickness — Material of Lower back plate — Thickness — Greatest pitch of stays — Working pressure of plate by rules

Diameter of tubes — Pitch of tubes — Material of tube plates — Thickness: Front — Back — Mean pitch of stays

Pitch across wide water spaces — Working pressures by rules — Girders to Chamber tops: Material — Depth and

Thickness of girder at centre — Length as per rule — Distance apart — Number and pitch of stays in each

Working pressure by rules — Superheater or Steam chest; how connected to boiler — 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

Pitch of rivets — Working pressure of shell by rules — Diameter of flue — Material of flue plates — Thickness — 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

PLEASE SEE Hull REPORT No. 29952

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 Safet*

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 :—* 2 Con Rod tops ✓ + 2 Con Rod bottom end bolts + nuts ✓ 2 Main bearing bolts + nuts, 1 set of coupling bolts, 1 set of feed + bilge pump valves, A quantity of assorted bolts + nuts, 1 propeller Iron of various sizes.

The foregoing is a correct description,

WILLIAM BEARDMORE & CO., LIMITED. *Manufacturer.* per K Sneddon

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Dates of Survey while building — *During progress of work in shops* 1916. Mch 1. Nov. 24. Dec 1-12-20-26. 1917 Jan 10. 30. Feb 22. Mch. 6-15-24.

During erection on board vessel First Date. LAST VISIT. 15-5-17 NO OF VISITS

Total No. of visits 12 *Is the approved plan of main boiler forwarded herewith* yes ✓

" " " *donkey* " " "

Dates of Examination of principal parts—*Cylinders* 10-1-14 *Slides* 10-1-14 *Covers* 10-1-14 *Pistons* 10-1-14 *Rods* 24-11-1

Connecting rods 24-11-16 *Crank shaft* 10-1-14 *Thrust shaft* 22-2-14 *Tunnel shafts* — *Screw shaft* 22-2-14 *Propeller* 22-2-

Stern tube 22-2-14 *Steam pipes tested* 14-4-17 *Engine and boiler seatings* 12-1-17 *Engines holding down bolts* 11-4-17

Completion of pumping arrangements 15-5-17 *Boilers fixed* 18-4-17 *Engines tried under steam* 26-4-17

Main boiler safety valves adjusted 26-4-17 (205 lbs) *Thickness of adjusting washers* 5/16"

Material of Crank shaft S *Identification Mark on Do.* 9323. J.P. 10.1.17 *Material of Thrust shaft* S *Identification Mark on Do* 9323 F.A.F. 22

Material of Tunnel shafts none *Identification Marks on Do.* *Material of Screw shafts* S *Identification Marks on Do* 9323 F.A.F. 21

Material of Steam Pipes Copper, 3½ DIA. 6.I.W.G ✓ *Test pressure* 400 lbs □" ✓

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

The Engines have been built under special survey in accordance with the Rules of the Society + have been forwarded to Goole to be fitted on board the vessel.

The workmanship + materials are of good quality throughout

The Machinery is eligible, in my opinion to have the record +L.M.C with date when it has been securely fitted on board + tried under steam with satisfactory results.

The Engines & Boiler of this Vessel have been placed on board and efficiently secured in position and on completion tried under steam & found to work satisfactorily, The safety valves have been adjusted under steam and tested for accumulation

In my opinion this vessel's machinery now appears to be eligible for record of +LMC 5-17.

It is submitted that this vessel is eligible for THE RECORD. +LMC 5.17.

W. H. Roberts & Fred. A. Ferguson.

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

23/5/17 17/6/17

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	£ 1 : 0 : 0	When applied for, ...19....
Special	£ 12 . 0 . 0	
~~Hull Donkey Boiler~~ Fee	£ : :	When received, 7/6/17 ....19....
2/3 fee for Hull office	8 . 0 . 0	
Travelling Expenses (if any)	£ : :	

Committee's Minute GLASGOW. 17 APR 1917

Assigned Deferred for compln

FD 25 MAY 1917

+LMC 5-17

MACHINERY CERTIFICATE WRITTEN.

LMH 16/4/17 NS.