

# REPORT ON MACHINERY.

No. 4313

Port of Grimsey

Received at London **WED. 18 JUL 1906**

No. in Survey held at

Date, first Survey 22 November 1905 Last Survey 16 July 1906

(Number of Visits 37)

Registered on the

Steam Trawler HELCIA

Tons { Gross 230  
Net 86

Master

W. Sandall Built at Sally

By whom built Cookham & Sons

When built 1906

Engines made at

Grimsey

By whom made J. Central Co. of E. & W. of

when made

Boilers made at

Hull & Co.

By whom made Central Marine Co.

when made

Registered Horse Power

76

Owners Rushworth & H. & Co. Port belonging to Grimsey

Is Electric Light fitted no

Is Refrigerating Machinery fitted for cargo purposes

no

Is Electric Light fitted no

ENGINES, &c.—Description of Engines

Triple Exp. Surf. Cond.

No. of Cylinders 3

No. of Cranks 3

Dia. of Cylinders 12 1/4 22 35

Length of Stroke 24

Revs. per minute 110

Dia. of Screw shaft as per rule 7.07

Material of screw shaft S. 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 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

Are the shafts lapped or protected between the liners Yes

Length of stern bush 3'0"

Dia. of Tunnel shaft as per rule 6.7

Dia. of Crank shaft journals as per rule 6.7

Dia. of Crank pin 7

Size of Crank webs 4 1/2 x 13 Dia. of thrust shaft under

Blades 7

Dia. of screw 8-6"

Pitch of Screw 11-0"

No. of Blades 4

State whether moveable no

Total surface 28 sq. ft.

No. of Feed pumps 1

Diameter of ditto 2 1/2

Stroke 12

Can one be overhauled while the other is at work Yes

No. of Bilge pumps 1

Diameter of ditto 3

Stroke 12

Can one be overhauled while the other is at work Yes

No. of Donkey Engines 1

Sizes of Pumps 3 1/2 x 6 stroke

No. and size of Suctions connected to both Bilge and Donkey pumps

Engine Room

Sea bilge & hotwell 2 bore. In Holds, &c.

2 bore.

No. of Bilge Injections 1

sizes 2 3/4

Connected to condenser, or to circulating pump no 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 no

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

Dates of examination of completion of fitting of Sea Connections 6/9 April 1906 Stern Tube 6/9 April 1906 Screw shaft and Propeller 6/9 April 1906

Is the Screw Shaft Tunnel watertight no tunnels it fitted with a watertight door no worked from no

BOILERS, &c.—(Letter for record) Manufacturers of Steel

Total Heating Surface of Boilers 12983 Is Forced Draft fitted no No. and Description of Boilers

Working Pressure 120 lbs Tested by hydraulic pressure no Date of test no No. of Certificate

Can each boiler be worked separately no Area of fire grate in each boiler no No. and Description of Safety Valves to

each boiler no Area of each valve no Pressure to which they are adjusted no Are they fitted with easing gear

Smallest distance between boilers or uptakes and bunkers or woodwork no Mean dia. of boilers no Length no Material of shell plates

Thickness no Range of tensile strength no Are the shell plates welded or flanged no Descrip. of riveting: cir. seams

Angle of seams no Diameter of rivet holes in long. seams no Pitch of rivets no Lap of plates or width of butt straps

Percentage of strength of longitudinal joint no Working pressure of shell by rules no Size of manhole in shell

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

Length of plain part no Thickness of plates no Description of longitudinal joint no No. of strengthening rings

Working pressure of furnace by the rules no Combustion chamber plates: Material no Thickness: Sides no Back no Top no Bottom

Pitch of stays to ditto: Sides no Back no Top no If stays are fitted with nuts or riveted heads no Working pressure by rules

Material of stays no Diameter at smallest part no Area supported by each stay no Working pressure by rules no End plates in steam space:

Material no Thickness no Pitch of stays no How are stays secured no Working pressure by rules no Material of stays

Diameter at smallest part no Area supported by each stay no Working pressure by rules no Material of Front plates at bottom

Thickness no Material of Lower back plate no Thickness no Greatest pitch of stays no Working pressure of plate by rules

Diameter of tubes no Pitch of tubes no Material of tube plates no Thickness: Front no Back no Mean pitch of stays

Pitch across wide water spaces no Working pressures by rules no Girders to Chamber tops: Material no Depth and

Thickness of girder at centre no Length as per rule no Distance apart no Number and pitch of stays in each no

Working pressure by rules no Superheater or Steam chest; how connected to boiler no Can the superheater be shut off and the boiler worked

separately no Diameter no Length no Thickness of shell plates no Material no Description of longitudinal joint no Diam. of rivet

Boles no Pitch of rivets no Working pressure of shell by rules no Diameter of flue no Material of flue plates no Thickness

stiffened with rings no Distance between rings no Working pressure by rules no End plates: Thickness no How stayed no

Working pressure of end plates no Area of safety valves to superheater no Are they fitted with easing gear no

Lynnes 1906

Report  
particulars  
Hull & Co.  
Hull & Co.

VERTICAL DONKEY BOILER— Manufacturers of Steel

No. \_\_\_\_\_ Description \_\_\_\_\_

Made at \_\_\_\_\_ By whom made \_\_\_\_\_ Who made \_\_\_\_\_ Where fitted \_\_\_\_\_

Working pressure \_\_\_\_\_ tested by hydraulic pressure to \_\_\_\_\_ Date of test \_\_\_\_\_ No. of Certificate \_\_\_\_\_ Fire grate area \_\_\_\_\_ Description of Safe \_\_\_\_\_

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 \_\_\_\_\_ Rivets \_\_\_\_\_

Dia. of rivet holes \_\_\_\_\_ Whether punched or drilled \_\_\_\_\_ Pitch of rivets \_\_\_\_\_ Lap of plating \_\_\_\_\_ Per centage of strength of joint \_\_\_\_\_ 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 \_\_\_\_\_ Stayed by \_\_\_\_\_

Diameter of uptake \_\_\_\_\_ Thickness of uptake plates \_\_\_\_\_ Thickness of water tubes \_\_\_\_\_ Dates of survey \_\_\_\_\_

SPARE GEAR. State the articles supplied:— 2 each of top & bottom end main bearings, one set of coupling bolts, one set each of an circulating feed and bilge pump valves, feed check valves, stud iron bolts nuts and end covers etc.

The foregoing is a correct description, Manufacturer. *J. H. Lister*

For the GREAT CENTRAL CO-OPERATIVE ENGINEERING & SHIP REPAIRING COMPANY, LTD.

Dates of Survey while building: During progress of work in shops— 1905:— Nov 22, 30 Dec 21, Jan 6:— 19, 27, 31 *Boarding* Feb 6, 14, 22, 23  
 During erection on board vessel— 1906:— June 15, 22, 26, 27 July 16  
 Total No. of visits \_\_\_\_\_ Is the approved plan of main boiler forwarded herewith *Yes.*

Dates of Examination of principal parts— Cylinders *9/16, 13/16* Slides *14/5/06* Covers *14/5/06* Pistons *14/5/06* Rods *6/2/06*  
 Connecting rods *2/4/06 etc* Crank shaft *24/5/06* Thrust shaft *5/5/06* Tunnel shafts *✓* Screw shaft *24/3/06* Propeller *24/3/06*  
 Stern tube *24/3/06* Steam pipes tested *22/4/06* Engine and boiler seatings *15/6/06* Engines holding down bolts *26/6/06*  
 Completion of pumping arrangements *26/6/06* Boilers fixed *15/6/06* Engines tried under steam *27/6/06*  
 Main boiler safety valves adjusted *26/6/06* Thickness of adjusting washers *8.*

Material of Crank shaft *Spiron* Identification Mark on Do. *489* Material of Thrust shaft *Spiron* Identification Mark on Do. *518*  
 Material of Tunnel shafts \_\_\_\_\_ Identification Marks on Do. \_\_\_\_\_ Material of Screw shafts *Spiron* Identification Marks on Do. *479*  
 Material of Steam Pipes *Copper Solid drawn 3 1/2 inch dia* Test pressure *400 lbs.*

General Remarks (State quality of workmanship, opinions as to class, &c. *These engines have been tried under special survey, the materials & workmanship are good; they have been satisfactorily fitted on board the vessel & tried under steam & the case is in my opinion eligible for the notation +LMC 706.*

*The Committee have approved in this instance of one feed and one bilge pump being fitted. See Secy's letter E 22/9/06*

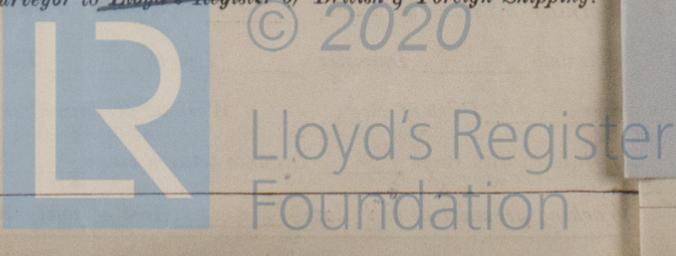
*This case is identical with Inquiries 33-4-5 by the same maker. See Gen. Reports 4200, 4154 and 4235 respectively.*

It is submitted that this vessel is eligible for THE RECORD *LMC 706*

The amount of Entry Fee..	£ 1 : . . .	When applied for, <i>17 July 1906</i>
Special ..	£ 11 : 8 : . . .	
Donkey Boiler Fee	£ 12 : 8 : . . .	
Travelling Expenses (if any)	£ 3 : 16 : . . .	
	£ 8 : 12 : 0	

*J. M.*  
*W. S. B.*  
*18.7.06*  
*L. Ritchie*  
 Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

Committee's Minute  
 Assigned *+ LMC 706* FRI, 20 JUL 1906



This office.

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