

No. 2290

TRANSFERRED TO:
L R. SYSTEM

THE BRITISH CORPORATION FOR THE SURVEY
AND
REGISTRY OF SHIPPING.

Report No. 2321 No. in Register Book 3717

" " TRANSFERRED TO:
L R. SYSTEM
S.S. OKU

Makers of Engines Smiths Dock Co Ltd.

Works No. 347

Makers of Main Boilers Blair Co (1926) Ltd.

Works No. C.247

Makers of Donkey Boiler

Works No.

MACHINERY.

TRANSFERRED TO:
L R. SYSTEM



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Register
Foundation

No.

THE BRITISH CORPORATION FOR THE SURVEY
AND
REGISTRY OF SHIPPING.

Report No. No. in Register Book

Received at Head Office 15th February 1930

Surveyor's Report on the Deu Engines, Boilers, and Auxiliary
Machinery of the Single Triple Screw Trawler.

10 Ru

Official No.

Port of Registry

Cardiff

Registered Owners

heale Street

Engines Built by

Cumtrec & Co. Ltd
Coventry Bank-on-Las.

at

Main Boilers Built by

Blair & Co (1926) Ltd.
Stockton-on-Las.

at

Donkey

at

Date of Completion

10-29

First Visit

12-8-29

Last Visit

19-10-29

Total Visits

30



RECIPROCATING ENGINES

Works No.

347

No. of Sets

1

Description

Triple expansion.
S.C. Berks.

No. of Cylinders each Engine

3

No. of Cranks

3

Diars of Cylinders

13 1/4" - 23" - 37"

Stroke

24"

Cubic feet in each L.P. Cylinder

16.8

Are Spring-loaded Relief Valves fitted to Top and Bottom of each Cylr?

"

each Receiver?

yes

Type of H.P. Valves,

piston.

1st I.P., "

"

2nd I.P., "

L.P., "

slide.

Valve Gear

Stephenson links.

Condenser

surface.

Cooling Surface

700

sq. ft. "

Diameter of Piston Rods (plain part)

4"

Screwed part (bottom of thread)

2.53"

Material

steel

Diar. of Connecting Rods (smallest part)

3 3/4"

Material

steel.

Crosshead Gudgeons

3 3/4"

Length of Bearing

2 1/2"

Material

"

No. of Crosshead Bolts (each)

4

Diar. over Thrd.

1 1/4"

Thrds. per inch

7

Material

steel.

Crank Pin

2

Diar.

2 1/4"

Lengths

6

Material

"

Main Bearings

6

Lengths

8"

Bolts in each

2

Diar. over Thread

2"

Threads per inch

7

Material

steel.

Holding Down Bolts, each Engine

43

Diar.

1 1/4"

No. of Metal Chocks

43

Are the Engines bolted to the Tank Top or to a Built Seat?

built seat.

Are the Bolts tapped through the Tank Top and fitted with Nuts Inside?

-

If not, how are they fitted?

-

Connecting Rods, Forged by

Brown Bros.

Piston

"

"

Crossheads,

Connecting Rods, Finished by

Cruithers & Co. Ltd.

Piston

"

Crossheads,

Date of Harbour Trial

14-10-29.

Trial Trip

19-10-29.

Trials run at

In North Sea.

Were the Engines tested to full power under Sea-going conditions?

yes.

If so, what was the L.H.P.?

560

Revs. per min.

103

Pressure in 1st I.P. Receiver,

60

lbs., 2nd I.P.,

lbs., L.P.,

10

lbs., Vacuum,

25

Speed on Trial

no check taken.

If the Conditions on Trial were such that full power records were not obtained give the following estimated data:—

Builders' estimated L.H.P.

550

Revs. per min.

106

Estimated Speed

10.5 knots.



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TURBINE ENGINES.

Works No. Type of Turbines

No. of H.P. Turbines No. of I.P. No. of L.P. No. of Astern

Are the Propeller Shafts driven direct by the Turbines or through Gearing?

Is Single or Double Reduction Gear employed?

Diam. of 1st Reduction Pinion } Width Pitch of Teeth

" 1st " Wheel } " " "

Estimated Pressure per lineal inch

Diam. of 2nd Reduction Pinion } Width Pitch of Teeth

" 2nd " Wheel } " " "

Estimated Pressure per lineal inch

Revs. per min. of H.P. Turbines at Full Power S.H.P.

If the Conditions on Trial were such that full power records were not obtained give the following estimated

" " I.P. " " "

" " L.P. " " "

" " 1st Reduction Shaft 250

" " 2nd " 10.25

" " Propeller Shaft

Total Shaft Horse Power

Date of Harbour Trial

" Trial Trip

Trials run at

Speed on Trial Knots. Propeller Revs. per min. S.H.P. 43 1/2 4.3

Turbine Spindles forged by

" Wheels forged or cast by

Reduction Gear Shafts forged by

" Wheels forged or cast by

TURBO-ELECTRIC MACHINERY DESCRIPTION OF INSTALLATION.

No. of Turbo-Generating Sets Capacity of each

Type of Turbines employed

Description of Generators

No. of Motors driving Propeller Shafts

Are the Turbine Shafts driven direct by the Motors or through Gearing?

Is Single or Double Reduction Gear employed?

Description of Motors

Diam. of 1st Reduction Pinion } Width Pitch of Teeth

" 1st " Wheel } " " "

Estimated Pressure per lineal inch

Diam. of 2nd Reduction Pinion } Width Pitch of Teeth

" 2nd " Wheel } " " "

Estimated Pressure per lineal inch

Revs. per min. of Generators at Full Power

" " " " " "

" " " " " "

" " " " " "

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" " " " " "



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PUMPS, ETC.

No. of Air Pumps

1

Diar.

4"

Stroke

13 1/2"

Worked by Main or Independent Engines?

Main Engines.

No. of Circulating Pumps

Centrifugal

Diar.

Stroke

Type of

Diar. of

Suction from Sea

5 1/2"

Has each Pump a Bilge Suction with Non-return Valve?

Yes.

Diar.

4"

What other Pumps can circulate through Condenser?

Ballast doukey.

No. of Feed Pumps on Main Engine

2

Diar.

2 3/8"

Stroke

13 1/2"

Are Spring-loaded Relief Valves fitted to each Pump?

Yes.

Can one Pump be overhauled while the others are at work?

Yes.

No. of Independent Feed Pumps

1

Diar.

4 1/4"

Stroke

6"

What other Pumps can feed the Boilers?

Ballast doukey.

No. of Bilge Pumps on Main Engine

2

Diar.

2 3/8"

Stroke

13 1/2"

Can one Pump be overhauled while the others are at work?

Yes.

No. of Independent Bilge Pumps

1

What other Pumps can draw from the Bilges?

Bilge ejector, Ballast doukey.

Are all Bilge Suctions fitted with Roses?

Yes.

Are the Valves, etc., so arranged as to prevent unintentional connection between Sea and Bilges?

Yes.

Are all Sea Connections made with Valves or Cocks next the Ship's sides?

Yes.

Are they placed so as to be easily accessible?

Yes.

Are the Discharge Chests placed above or below the Deep Load Line?

above.

Are they fitted direct to the Hull Plating and easily accessible?

Yes.

Are all Blow-off Cocks or Valves fitted with Spigots through the Hull Plating and Covering Plates or Flanges

on the Outside?

Yes.

BOILERS

Works No.

No. of Boilers

Single or Double-ended

No. of Boilers in each

Type of Furnace

Date when Plan approved

Approved Working Pressure

Hydraulic Test Pressure

Date of Hydraulic Test

" when Safety Valves set

Pressure at which Valves were set

Date of Accumulation Test

Maximum Pressure under Accumulation Test

System of Drafting

Can Boilers be worked separately?

Number of Plates

" " "

" " "

" " "

Greatest Internal Diam. of Boilers

" " "

Square Feet of Heating Surface per Boiler

" " "

No. of Safety Valves on each Boiler

" " "

" " "

" " "



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Are the Water Gauges fitted direct to the Boiler Shells or mounted on Pillars? *on pillars.*

Are the Water Gauge Pillars fitted direct to the Boiler Shells or connected by Pipes? *direct.*

Are these Pipes connected to Boilers by Cocks or Valves? *-*

Are Blow-off Cocks or Valves fitted on Boiler Shells? *no valves.*

No. of Strakes of Shell Plating in each Boiler *one.*

Plates in each Strake *2*

Thickness of Shell Plates Approved *1 1/8"*

in Boilers *1 1/8"*

Are the Rivets Iron or Steel? *steel.*

Are the Longitudinal Seams Butt or Lap Joints? *butt.*

Are the Butt Straps Single or Double? *double.*

Are the Double Butt Straps of equal width? *yes.*

Thickness of outside Butt Straps *1/8"*

inside *1"*

Are Longitudinal Seams Hand or Machine Riveted? *machine.*

Are they Single, Double, or Treble Riveted? *treble.*

No. of Rivets in a Pitch *5*

Diar. of Rivet Holes *1 3/16"* Pitch *8 1/8"*

No. of Rows of Rivets in Centre Circumferential Seams *1*

Are these Seams Hand or Machine Riveted? *-*

Diar. of Rivet Holes *-* Pitch *-*

No. of Rows of Rivets in Front End Circumferential Seams *2*

Are these Seams Hand or Machine riveted? *hand*

Diar. of Rivet Holes *1 3/16"* Pitch *3 1/2"*

No. of Rows of Rivets in Back End Circumferential Seams *2*

Are these Seams Hand or Machine Riveted? *machine.*

Diar. of Rivet Holes *1 3/16"* Pitch *3 1/2"*

Size of Manholes in Shell *16" x 12"*

Dimensions of Compensating Rings *2-7" x 2-3" A 1 1/8"*

Thickness of End Plates in Steam Space & Approved

in Boilers

Pitch of Steam Space Straps

Diar. of Straps Approved

in Boilers

Material of

How are Straps Secured?

Diar. and Thickness of Coast Washers on End Plates

Riveted

Within

Thickness of Middle Back End Plates Approved

in Boilers

Thickness of Doublebacks in Wide Spaces between Fireboxes

Pitch of Straps

Diar. of Straps Approved

in Boilers

Material

Are Straps Riveted with Nuts outside?

Thickness of Back End Plates at Bottom Approved

in Boilers

Pitch of Straps in Wide Spaces between Fireboxes

Thickness of Doublebacks

Thickness of Front End Plates at Bottom Approved

in Boilers

No. of Doublebacks in Wide Spaces between Fireboxes



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Thickness of End Plates in Steam Space Approved

1 7/64" in Boilers

" " " " " in Boilers

1 7/64" " "

Pitch of Steam Space Stays

15 1/2" x 18"

Diar. " " " " Approved

2 7/8" Threads per Inch 6

" " " " " in Boilers

2 7/8" " 6

Material of " " "

steel double-nuts.

How are Stays Secured?

Diar. and Thickness of Loose Washers on End Plates

" " Riveted " "

Width " " Doubling Strips "

Thickness of Middle Back End Plates Approved

" " " " " in Boilers

Thickness of Doublings in Wide Spaces between Fireboxes

Pitch of Stays at

1 7/8" " " 14" x 9"

Diar. of Stays Approved

1 7/8" Threads per Inch 8

" " in Boilers

1 7/8" " 8

Material "

steel yls.

Are Stays fitted with Nuts outside?

Thickness of Back End Plates at Bottom Approved

7/8"

" " " " " in Boilers

7/8"

Pitch of Stays at Wide Spaces between Fireboxes

14" x 9"

Thickness of Doublings in " "

Thickness of Front End Plates at Bottom Approved

1"

" " " " " in Boilers

1"

No. of Longitudinal Stays in Spaces between Furnaces

me.

Handwritten notes and diagrams on page 19, including a large 'R' logo and '© 2020 Lloyd's Register Foundation' text.

VERTICAL DONKEY BOILERS.

No. of Boilers Type

Greatest Int. Diar. Height

Height of Boiler Crown above Fire Grate

Are Boiler Crowns Flat or Dished?

Internal Radius of Dished Ends Thickness of Plates

Description of Seams in Boiler Crowns

Diarr. of Rivet Holes Pitch Width of Overlap

Height of Firebox Crowns above Fire Grate

Are Firebox Crowns Flat or Dished?

External Radius of Dished Crowns Thickness of Plates

No. of Crown Stays Diarr. Material

External Diarr. of Firebox at Top Bottom Thickness of Plates

No. of Water Tubes Ext. Diarr. Thickness

Material of Water Tubes

Size of Manhole in Shell

Dimensions of Compensating Ring

Heating Surface, each Boiler Grate Surface

SUPERHEATERS.

Description of Superheaters

Where situated?

Which Boilers are connected to Superheaters?

Can Superheaters be shut off while Boilers are working?

No. of Safety Valves on each Superheater Diarr.

Are " " fitted with Easing Gear?

Date of Hydraulic Test Test Pressure

Date when Safety Valves set Pressure on Valves

MAIN STEAM PIPES

No. of Lengths

Material

Internal Diameter

Thickness

How are Flanges secured?

Date of Hydraulic Test

Test Pressure

No. of Lengths

Material

Internal Diameter

Thickness

How are Flanges secured?

Date of Hydraulic Test

Test Pressure

Handwritten notes:
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MAIN STEAM PIPES.

No. of Lengths

Material

Brazed, Welded or Seamless

Internal Diam.

Thickness

How are Flanges secured?

Date of Hydraulic Test

Test Pressure

No. of Lengths

Material

Brazed, Welded or Seamless

Internal Diam.

Thickness

How are Flanges secured?

Date of Hydraulic Test

Test Pressure

No. of Lengths

Material

Brazed, Welded or Seamless

Internal Diam.

Thickness

How are Flanges secured?

Date of Hydraulic Test

Test Pressure

1
copper.
S.D.
4"
6 W.S.
braced.
10-10-29
400 lbs.

STEAM EVAPORATORS
General Service May 6" x 1/4" x 26
Feed Pumps 6" x 1/4" x 26

FEED WATER HEATERS.

FEED WATER FILTERS.



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REFRIGERATORS.

No. of Machines *2* Capacity of each *2*
 Makers *1st. 2nd.* Main Bearing Bolt *2* Valve Gear *1st. 2nd.*
 Description *6* Main Valve *1st.* Stop Valve *1st.*
 L.P. Valve Ring L.P. Valve Ring L.P. Valve Ring
 No. of Steam Cylinders, each Machine *1* No. of Compressors *1* No. of Cranks *1*
 Particulars of Pumps in connection with Refrigerating Plant and whether worked by Refrigerating Machines
 or Independently
 Air Pump Worked Air Pump Valve *1st.*
 Crank Shafts Crank Pin Fastener Crankshaft Pinning
 Propeller Shafts Propeller Propeller Shafts
 Boiler Tubes *3* Condenser Tubes *10* Condenser Nozzles *20*

System of Refrigeration
 „ Insulation
 Are Brine and other Regulating Valves placed so as to be accessible without entering the Insulated Spaces?
 Are all Pipes, Air Trunks, &c., well secured and protected from risk of damage?
 Are all Bilge, Sounding, and Air Pipes in Insulated Spaces properly insulated?
 Are Thermometer Tubes so arranged that Water cannot enter and freeze in them?
 Date of Test under Working Conditions

RESULTS OF TRIALS.

COMPARTMENT.	Temp. at beginning of Trial.	Temp. at end of Trial.	Time required to obtain this Result.	Rise of Temp. after hours.
Machine of 11000 lbs.	<i>45</i>	<i>35.8</i>	<i>358</i>	<i>1.2</i>
Current Alternating or Continuous	<i>Continuous</i>			
Height of Stools W in System	<i>Double</i>			
Position of Dryness	<i>Starting platform</i>			
Main Safety Valve				
Size of Orifice to which Particles are projected on Main Safety Valve			<i>4</i>	
Particulars of Shape Cards				
Machine	Temp. at beginning of Trial.	Temp. at end of Trial.	Time required to obtain this Result.	Rise of Temp. after hours.
<i>Lucius</i>	<i>14</i>	<i>30 4.2</i>	<i>720</i>	<i>2146.556</i>
<i>Corruption</i>	<i>6</i>	<i>32 7.4</i>	<i>700</i>	
<i>Beekford</i>	<i>43</i>	<i>30 12.6</i>	<i>78</i>	<i>2191.573</i>

Articles of Spare Gear for Refrigerating Plant carried on board:—



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Total No. of Lights
 Quizzes required for Masters and Ratings

GENERAL CONSTRUCTION.

Have the Machinery and Boilers been constructed in accordance with the requirements of the Rules and the

Approved Plans? *Yes*

If not, give details of the points of difference, and state when these were sanctioned by the Chief

Surveyor.

Are the Dynamometers, Main and Branch Cables, so placed that the Compressors are not affected by them?

Have Tests been made to prove that this condition has been satisfactorily fulfilled?

Has the Insulation Resistance over the whole system been tested?

What does the Resistance amount to?

Is the Insulation supplied with a Voltmeter?

as Ampere Meter

Date of Trial of complete Installation

Have all the requirements of Section 13 been satisfactorily carried out?

Are the Materials used in the Construction of Engines and Boilers, so far as could be seen, sound and

trustworthy? *Yes*

Is the Workmanship throughout thoroughly satisfactory? *Yes*

The above correctly describes the Machinery of the S.S.

as ascertained by *me* from personal examination

J.D. Stephenson

Engineer Surveyor to the British Corporation for the Survey and Registry of Shipping.

Fees—

MAIN BOILERS.		£	s.	d.
H.S.	1980 Sq. ft.	:	:	:
G.S.	55.5 "	:	:	:
DONKEY BOILERS.				
H.S.	✓ Sq. ft.	:	:	:
G.S.	~ "	:	:	:
		£	:	:
ENGINES.				
L.P.C.	16.8 Cub. ft.	:	:	:
		£	:	:
Testing, &c. ...		:	:	:
		£	:	:
Expenses ...		:	:	:
Total ...		£	:	:

It is submitted that this Report be approved,

Jas Barr for Chief Surveyor.

Approved by the Committee for the Class of M.B.S.* on the 19th February 1930

Fees advised

Fees paid



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Lloyd's Register Foundation Secretary.

Page-- 40 of 40

the amount of the bill is \$100.00

H.S. 1980
1980
1980

DOMESTIC BOND

H.S. 1980

G.S. 1980

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It is requested that this Report be approved.

Approved by the Committee for the Class of M.B.S. of the

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