

# Report of Survey for Repairs, &c., of Engines and Boilers.

Date of writing Report 1st May 1940 When handed in at Local Office 3rd May 1940 Port of Grimsby (Received at London Office MAY 8 1940)

No. in Reg. Book 74582 Survey held at Birmingham Date, First Survey 14th February Last Survey 24th April 1940 (No. of Visits 21)

Tonnage: Gross 3844 Net 2310 Vessel built at Sunderland By whom W. Pickersgill & Sons, Ltd Year 1924 Month 4  
Engines made at Liverpool By whom Richardsons, Westgarth & Co., Ltd When 1924  
Boilers, when made (Main) 1924 (Donkey) 1924  
Nominal Horse Power 345  
No. of Main Boilers 2 Owners Cowland & Harwood's S.S. Co., Ltd Owners' Address Headlam & Son Port Grimsby Voyage Grimsby  
No. of Donkey Boilers 1 Managers Headlam & Son  
Steam Pressure in Main Boilers 180 lbs. # Surveyed Afloat or in Dry Dock Thames Graving Dock & Birmingham Dock (State name of Dock.)

Last Report No. \_\_\_\_\_ Port \_\_\_\_\_  
Particulars of Examination and Repairs (if any) Damage & R.P.

Periodical surveys, when held, must be reported in detail and in the terms of the Rules. State clearly the cause of repairs, if any, and, in detail, the nature and extent of examinations and subsequent repairs. Repairs on account of damage (the cause of which must be stated) should be separated from repairs due to other causes; and besides being detailed in the body of the report, should be briefly summarised at the end of the report. State also the dates and initials of any letters respecting this case.

CHARACTER. For Special Survey Date of last Survey and of Periodical Surveys.	Years assigned or expired.	Machinery and Boiler surveys (including date of N.B., if any).
<u>+100 A1-3-39</u>		<u>+LMC-4-26</u>
<u>S.S. Spec. A-3-7-36</u>		<u>BS-10-39</u>
		<u>TS-3-39 CL</u>

In damage cases where the Surveyor has not made a special damage report he is required to state whether he offered his services for this purpose, and why they were declined yes, not required  
Was a damage report made by anyone else? If so, by whom? yes, Underwriters  
Did the Surveyor personally go inside each Main Boiler separately and make a thorough examination at this time? yes  
" " " " " " " " yes  
If this was not done, state for what reasons? \_\_\_\_\_

And what parts of the Boilers could not be thus thoroughly examined? \_\_\_\_\_  
Also what special means, in the absence of internal examination, were adopted by the Surveyor to assure himself of the thorough efficiency of those parts of each Boiler? \_\_\_\_\_

State latest date of internal examination of each boiler Start 1.3.40 Port Main & Donkey 5.3.40 Present condition of funnel(s) Good

Did the Surveyor examine the Safety Valves of the Main Boiler? yes To what pressure were they afterwards adjusted under steam? 180 lbs.  
Did the Surveyor examine the Safety Valves of Donkey Boiler? yes To what pressure were they afterwards adjusted under steam? 180 lbs.  
Did the Surveyor examine all the manholes, doors and their fastenings of the Main Boilers? yes and of the Donkey Boilers? yes  
Did the Surveyor examine the drain plugs of the Main Boilers? \_\_\_\_\_ and of the Donkey Boilers? \_\_\_\_\_  
Did the Surveyor examine all the mountings of the Main Boilers? yes and of the Donkey Boilers? yes  
Has screw shaft now been drawn and examined? yes Is it fitted with continuous liner? yes Is an approved appliance fitted at the after end of the shaft to permit of it being efficiently lubricated? No.  
Has shaft now been changed? No If so, state reasons. \_\_\_\_\_  
Has the shaft now fitted been previously used? yes Has it a continuous liner? yes Is an approved appliance fitted at the after end of the shaft to permit of it being efficiently lubricated? \_\_\_\_\_

State date of examination of Screw Shaft 27.2.40 State the distance between lignum vitae or bearing metal of stern bush and top of after bearing of screw shaft Brush, rounded  
Engine parts, when referred to by numbers, should be counted from forward. Is electric light and/or power fitted? yes  
If so, did the Surveyor examine the generators, motors, switchgear, cables and fuses? yes  
Has the insulation resistance of the generators, circuits and apparatus been tested and found to be not less than 100,000 ohms? yes  
If the Survey is not complete, state what arrangements have been made for its completion and what remains to be done. Complete.

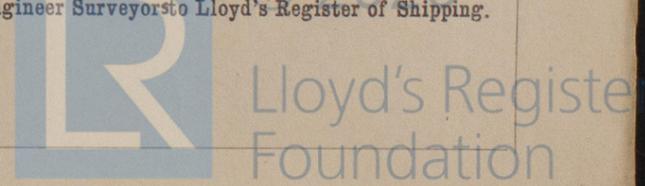
Damage stated sustained through bombing off the Humber on the 3rd February, 1940 & subsequent beaching of the vessel on Hable Sands on the 4th February, 1940.  
How done on account of damage: The cylinders, pistons, valves, crank, thrust & tunnel shafting, tail shaft, condenser (main & aux.), pumps, pumping arrangement, propeller, stern bush, sea connection & their fastenings, steering engine & machinery generally examined & found or placed in order.  
Machinery examined under working conditions on completion of repairs & found satisfactory.  
Electrical installation examined throughout with generator, cables, switchgear, fuses, fittings, etc., repaired as necessary, megger tested & found in order. Wiring & fittings renewed where required. Commutator completely overhauled, field coils & armature repaired. Commutator & brush gear overhauled & renewed.  
Installation tested under working conditions and found satisfactory. P.T.O.

General Observations, Opinion, and Recommendation: The machinery of this vessel is in safe working condition and eligible in our opinion to remain as classed with fresh record of +LMC-4-40 and TS-2-40 (CL)  
(State clearly what alteration, if any, is suggested to be made in the existing classification of the vessel's machinery in the Register Book, consequent upon this survey, and also any alteration required to be made in the records of the vessel's machinery, boilers, working pressures, &c.; thus, for example, B.S. 9.11, B.&M.S. 9.11, & L.M.C. 9.11, or L.M.C. 140 lb., F.D., &c.)

Survey Fee (per Section 29) £ 12 0 0 Fees applied for 7 5 19 40  
Special Damage or Repair Fee (if any) (per Section 29) £ 15 15 0  
Travelling expenses (if chargeable) £ 1 14 0  
Received by me, \_\_\_\_\_

W. Clive Bell  
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute \_\_\_\_\_  
Assigned + L.M.C. 4-40 Without Sp. Cond



2 - Steel S.S. "KILDALE" -Damage Contd.

Main & donkey boilers examined throughout with their mountings, manholes, doors, etc. Both main boilers tested by hydraulic pressure to 230 lbs. & found in order.

All safety valves adjusted under steam to 180 lbs.

Superheater headers removed, cleaned, examined internally, tested by hydraulic pressure to 540 lbs. & found in order. All elements removed & tested by hydraulic pressure to 500 lbs.

All main steam pipes & auxiliary steam pipes over 3" dia. removed & tested by hydraulic pressure to 360 lbs.

The superheater headers & elements & the steam pipes in connection with same have not been replaced at this time, but have been placed on board & will be refitted at the conclusion of the war. The connections to & from the superheaters have been blanked off on the main steam valve chest.

Damage Repairs.

Main Engines. - Crankshaft lifted & examined. White metal in main bearings & bottom end brasses dressed up where scored. Lower half of MP top end brass renewed (cracked). Upper half of HP top end brass renewed (cracked). Both halves of LP top end brasses renewed (cracked) & all top end pins dressed up. Crankshaft refitted & all shafting realigned. Main engine holding down bolts overhauled & hardened up, 3 broken bolts renewed.

Main engine column head & foot bolts overhauled & hardened up, 2 column head bolts renewed.

Main condenser tubes drawn, tested & about 350 damaged tubes renewed, condenser tested & found in order. Auxiliary condenser tested & 4 defective tubes renewed.

Circulating Pump. - Rod renewed (bent) Suction & delivery valves renewed (broken) Seats repaired & machined. Air vessel tested by hydraulic pressure to 50 lbs. & found in order.

Air Pump rod renewed (scored) 2 feed pump plungers renewed, scored.

Ballast Pump valve gear overhauled & slack pins renewed.

Aft peak tank valve cover renewed (broken) Main & auxiliary inlet valve chests tested by hydraulic pressure to 50 lbs. & found in order. Auxiliary condenser inlet valve renewed (broken) tested by hydraulic pressure to 50 lbs. Auxiliary condenser circulating pipe renewed (broken)

Main engine bilge pump discharge valve & spindle, general service pump discharge valve & spindle & auxiliary condenser pump discharge valve & spindle renewed (cracked)

The following bilge & tank suction pipes which were broken, now renewed or repaired.

3 fore peak suction pipes renewed, 2 cast iron in H<sup>o</sup> 1 tank & 1 lead in H<sup>o</sup> 2 tank.

1 H<sup>o</sup> 1 tank suction lead pipe renewed in H<sup>o</sup> 2 tank. 2 H<sup>o</sup> 2 tank cast iron suction pipes renewed

2 H<sup>o</sup> 2 tank lead suction pipes in storeroom repaired at necks of flanges. H<sup>o</sup> 4 tank lead suction pipe in engine room repaired. H<sup>o</sup> 6 tank iron suction pipe renewed.

H<sup>o</sup> 1 Bilge Suction Pipes - One C.T. pipe renewed in H<sup>o</sup> 2 hold & one lead pipe repaired.

One lead pipe renewed in cross-timber.

Storeroom Bilge Pipes. One lead pipe renewed.

Engine Room Bilge Pipes. 3 lead suction pipes renewed. 2 lead suction pipes repaired.

2 lead suction pipes to funnel well repaired.

H<sup>o</sup> 3 Hold. 2 C.T. bilge suction pipes renewed.

H<sup>o</sup> 4 Hold. 1 lead bilge suction pipe renewed & 2 lead suction pipes repaired.

3 - Steel S.S. "KILDALE"Damage Repairs Contd.

Steering Engine: Bedplate renewed complete with crankshaft bearings (fractured) steering gear extension shaft straightened (bent). Outside bulkhead bearing & half of inside bearing renewed, (broken).

Propeller blades dressed up on edges where bent.

Main Boilers: Bottom lagging mats renewed, remainder of lagging repaired where damaged. All tubes expanded in both main boilers.

Main feed discharge pipe repaired in way of shot hole, annealed, tested by hydraulic pressure to 450 lbs. & found in order.

Gunmetal branch piece on top of boiler renewed (fractured) tested by hydraulic pressure to 360 lbs. & found in order. A number of shot holes in funnel repaired.

Wear & Tear Repairs.

Main engine H.P. valve casing cover renewed (broken & previously repaired)

Ball bearing for steam inlet valves of Lentz H.P. valve gear renewed.

New end forged on L.P. valve spindle.

A number of additional tubes fitted in main condenser.

2 shut spools re-metalled on ahead side.

Auxiliary Condenser Circulating Pump. Liners in water end renewed, bucket rings renewed, & piston rings renewed.

Weir's Feed Pump. Valve gear boxes renewed, steam gland retubed.

General Service Pump. Bucket rings renewed. Piston rings renewed. 2 valve spindles renewed.

Doukey Boiler Feed Pump. Piston rods & valve rods renewed. Valve gear overhauled. Bucket rings renewed.

Synano Engine: Piston rod & valve spindle renewed. Piston rings renewed.

Governor overhauled.

Steering Engine: 2 piston rods skimmed up & rebushed.

Stern Prop rewooded.

Funnel: Sinker fitted in way of whistle & ladder brackets.

X See Barrage Report No. 23915. Stern tube nut now renewed.

X See Hull Rpt. No. 51294. Main & auxiliary check valve pillars examined & found in order, stated to have been renewed at Buenos Aires.

Boiler Repairs: Port Main Boiler. Centre furnace mouth electrically welded at bottom where leaking slightly. Blow down cover columns renewed. Salinometer cocks renewed. Starboard internal feed pipe renewed. 21 superheater elements renewed.

Starboard Main Boiler. One combustion chamber side stay renewed. Scum valve cover bridge pillars renewed. Blow down valve renewed. Main feed check valve chest renewed, tested by hydraulic pressure to 450 lbs. & found in order, internal pipe renewed.

Doukey Boiler: 40 screw stays renewed. Salinometer & feed cocks renewed.

Forward check valve chest renewed, tested by hydraulic pressure to 450 lbs. & found in order.

Aft check valve renewed. Front circumferential seams built up by electric welding where leaking locally. Lower manhole & door built up by electric welding & door refitted.

3. 4" copper auxiliary steam pipes renewed. 6 W.G. Pipes, tested by hydraulic pressure to 360 lbs.

Other minor repairs effected.