

Rpt. 9

Date of writing report 3/10/55

Survey held at Whyalla

14 OCT 1955

Received London

No. of visits 33

Port Whyalla

First date 6/5/55

No. 230

Last date 30/9/55

REPORT OF PERIODICAL SURVEYS & REPAIRS OF MACHINERY

No. in R.B. 14108 S.S. Name M.V. "IRON KING"
 Owners Broken Hill Pty. Co. Ltd. Gross tons 4584 Date of build 1936 10
 Engines made 1936 By D. Rowan & Co. Ltd Glasgow Managers. Port of Registry Melbourne
 No. of Main Engines 1 No. of Screws 1 Type Quad. Steam recip. Exh Turbo Comp.
 No. of Main Boilers 3 W.P. 250lbs
 No. of Aux./Donkey Boilers W.P.
 Surveyed Afloat or in Dry Dock afloat
 Nature of Survey Part LMC & OE conversion
 Was Damage Report issued? No Int. Cert.? Yes
 Last Report (For Head Office only)

Hull	Machinery
*100A1 with freeboard	* LMC
ss NSW 10,49	MS 9,48
8,53	BS 6,53

The condition of any of the following items is to be described as "good" only when the part has been examined, found or placed in good condition, and is considered to be acceptable until the due date of the next Periodical Examination. Where it is considered that re-examination or repairs should be effected before the due date of the next Periodical Examination a distinguishing mark thus † should be inserted against the item and the circumstances and action recommended described fully under "defects and repairs". At part or complete Special Surveys those items which are not applicable to the ship should be cancelled with a black line; this need not be done when the machinery is on a continuous survey basis. When any part has been subjected to pressure test this should be stated. Engine parts when referred to by numbers should be counted from forward.

If so, is the Report sent now, or when will it be sent?

- DOCKING Propellers - Wear Down of Stern Bushes - Oil Glands - Sea Connections -
- Fastenings - Has Screwshaft/Tubeshaft been drawn? No Date of Examination - Has Shaft been changed? -
- Has Shaft now fitted been previously used? - Has Shaft now examined/fitted a continuous liner? - Approved oil gland? -
- MAIN ENGINES (Recip. Steam or I.C.) PORT STARBOARD
- 1 Cyls., Covers, Pistons & Rods Good
- 2 Valves & Gears Good
- 3 Connecting Rods, Top Ends & Guides {Side: Good, Centre: YYY
- 4 Crankpins & Bearings {Side: Good, Centre: YYY
- 5 Journals & Bearings Good
- MAIN ENGINE DRIVEN AIR COMPRESSORS
- 6 Cyls., Covers, Pistons & Rods
- 7 Connecting Rods & Top Ends
- 8 Crankpins & Bearings
- 9 Journals & Bearings
- 10 Coolers & Safety Devices
- MAIN ENGINE DRIVEN SCAVENGE PUMPS
- 11 Cyls., Covers, Pistons & Rods
- 12 Connecting Rods & Top Ends
- 13 Crankpins & Bearings
- 14 Journals & Bearings
- 15 Levers
- 16 SCAVENGE BLOWERS
- 17 SUPERCHARGERS
- MAIN TURBINES
- 18 Casings, Rotors, Blading, Bearings & Thrusts
- 19 EXHAUST STEAM TURBINES (WITH RECIP. ENGINES) Good
- 20 STEAM COMPRESSORS Good
- 21 CLUTCHES & HYDRAULIC COUPLINGS
- 22 REDUCTION GEARING
- 23 THRUST BLOCKS, SHAFTS & BEARINGS Good
- 24 INTERMEDIATE SHAFTS & BEARINGS -
- 25 HOLDING DOWN BOLTS & CHOCKS Good
- 26 CONDENSERS (MAIN & AUX.) Good
- 27 STEAM RE-HEATERS
- 28 DE-SUPERHEATERS
- 29 STOP & MANOEUVRING VALVES Good
- 30 MAIN ENGINE DRIVEN PUMPS
- 31 CRANKCASE DOORS & EXPLOSION RELIEF DEVICES - Have Main Engines been tested working and manoeuvring? Yes

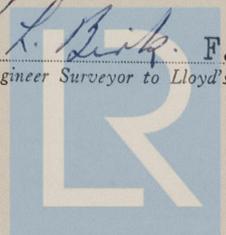
If certificate is required state where to be sent

OPINION OF MACHINERY AND RECOMMENDATIONS. This vessels machinery so far as seen is fit to remain as classed and have record of *LMC 9,55 when the propeller, sea inlet and main discharge valves and blow down cocks and outside fastenings have been examined and have record of "Fitted for Oil fuel 9,55 F.P. above 150°F"

THURSDAY 1 DEC 1955

Date of Committee
 Decision Deferred for up. hrs but assign BS 9.55 sps 9.55

F. K. L. BIRK
 Engineer Surveyor to Lloyd's Register of Shipping



Lloyd's Register Foundation

Fitted for oil fuel 9.55 F.P. above 150°F

Noted for Handing

32 Essential Independent Pumps (Identify by position) All independent pumps examined.

33 Bilge, Ballast & Oil Fuel Suction Lines, Fittings & Controls Good --- Oil fuel conversion now carried out as per attached sheet

34 Have the remaining Piping Arrangements & Fittings in the machinery space been examined as considered necessary? Yes

35 Fresh Water Coolers - 36 Lub. Oil Coolers Good 37 Heaters (state service) Feed heaters --Good
38 Independent Air Compressors, Coolers & Safety Devices -
39 Air Receivers & Safety devices -Main Good --Now fitted in oil fuel conversion. 40 Auxiliary -
41 Oil Fuel Tanks (Not forming part of hull structure) Good
42 Evaporators Good 43 Have Evaporator Safety Valves been tested under steam? Yes
44 Steering Machinery Good 45 Windlass Good 46 Fire Extinguishing Arrangements Good

AUXILIARY ENGINES (Identify by position) 90KW Steam generator Starboard side ER Flat aft. Good
50KW Steam Generator Port side ER Flat aft. Good
Circulating pump engines Port Good
Forced draught fan Good -- Induced draught fan now removed.

ELECTRICAL EQUIPMENT

Table with columns for PROPULSION, PORT, STARBOARD, and AUXILIARY EQUIPMENT. Rows include Generators, Exciters, Air Coolers, Motors, Control Gear, Cables, etc., Insulation Resistance, Insulating Oil Test, Overspeed Governors, Magnetic Couplings, and Air Gap.

BOILERS OPENED UP & EXAMINED (Identify by position and state latest date of internal examination of each boiler)

MAIN Port forward --Good, Starboard For'd--Good, AUXILIARY, DONKEY or PRESS After --Good
Superheaters As above, Good.
Safety Valves Good
Mountings, Doors & Fastenings Good
Safety Valves Adjusted to { Sat. 250lbs/sq in. Spt. 240lbs/sq in. (at Owners request)
Boiler Securing Arrangements Good
Main Economisers - Exhaust Gas Heated Economisers -
Steam Heated Steam Generators - Steam Generator Safety Valves Adjusted to -
Were Oil Burning System & Remote Controls examined working in accordance with Rules? Yes Forced Circulating Pumps -
Have Saturated Steam Pipes in cylindrical boiler smoke boxes been examined as required by Rules? - Funnel Good

EXAMINATION & TESTING OF STEAM PIPES (State material)

Main Mild Steel. Sections removed and tested Auxiliary (over 3 in. bore) Mild steel. Sections removed & Tested
Others examined.
Were Copper Pipes annealed? - Have Saturated Pipes in cylindrical boiler smoke boxes been tested? -

PARTICULARS OF DEFECTS & REPAIRS, ETC. (Damage repairs should be detailed separate from wear and tear repairs; state what action has been taken regarding items which are subjects of class)

Boilers. All Boilers, Supports forward and aft renewed. Bottom furnace casings and air casings renewed. Side casings inner and outer renewed, also casing doors. Superheater box end doors renewed. Furnace rear panels and air casings renewed. Uptakes cropped and renewed as necessary. Starboard Boiler. 5 tubes 1 13/16 in dia renewed and 1 4" dia tube renewed. Main engine. H.P. Valves faced and new spindles fitted. H?P & both I.P guide slippers reinstalled. 1st and L.P eccentric straps reinstalled. Exhaust turbine & Compressor. Completely stripped, gland sealing rings renewed, lubricating oil pump gears and bushes renewed, crack in bottom flange of casing machined and bedded cover and compensating plate fitted. Auxiliaries. Main circ. pump and engines. Cylinder and valve chests bored, new pistons & valves fitted, new valve spindles, shafts dressed, bearings reinstalled, new sealing rings fitted to pump. Fan engine (FD). Cylinder bored, new piston and rod, shaft dressed, bearings reinstalled. Main & aux. air pumps. Valves faced, new pump rod, new rings. Independent pumps. All overhauled, buckets built up, rods dressed & renewed as necessary, new liner in bilge pump, sanitary pump steam cyl. bored. Fire pump repositioned after port of boiler room. General service pump now only connected to Fresh water and feed systems. XXXXXXXXXXXXXXXXXXXXXXX

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Table with columns for Survey fees, Damage fee, Expenses, and Late attendance. Values: Survey fees Machy & repairs £85.0.0, Boilers & repair 52 0 0, Electrical 25 0 0, Oil fuel Convsn 50 0 0, Damage fee, Expenses 1 0 0, Late attendance 6 0 0

Date when A/c rendered 3rd October 1955

Rpt. 9a.

Port of Whyalla Continuation of Report No. 230 dated 3.10.55 on the

S.S. "IRON KING"

REPAIRS. (cont)

Main condenser cleaned and tested. Aux. condensed retubed. Feed tank bottom and one side renewed. Return end of main condenser renewed. Ballast pumps. Inboard. New piston. Both buckets built up new rings fitted all valves ground and oil resistant joints fitted.

Electrical. Generators completely overhauled. Main switchboard with switches and circuit breakers overhauled, board rewired. Circuits below Rule resistance rewired and permanent junction boxes fitted. Steering mains renewed. All starters and motors removed & overhauled. Engine room rewired as necessary, boiler room rewired. After accommodation rewired other sections wired as necessary. Tween deck lighting made to Rule requirements. Navigation indicator box renewed, all navigation lights repaired, circuits rewired as necessary. Emergency circuits rewired. Galley rewired and electric range removed. All motor starters removed from boiler room. All junction boxes and fuses tallied and rated.

Oil fuel conversion. Boiler furnaces stripped of coal burning arrangements, furnace pans renewed, brickwork rebuilt and two burners fitted to each boiler. Oil burning installation now fitted in accordance with plans approved at London 10.8.53 for Iron Duke, and Secretary's letter dated 9.6.55. Nos. 3 & 4 D.B. tanks have now been fitted to carry oil fuel. All pipes passing through these tanks and the tank ends have been re-jointed with oil resistant materials and afterwards tested as per Rules. Steam heating coils fitted in D.B. tanks and the Settling tanks have been tested to Rules. Returns from heating coils led to observation tank. Settling tanks to plan approved at Sydney 21.8.53 fitted in previous wing bunker space and not forming part of the hull have been fitted and tested as per Rules. Gutterways and drainage is provided, air pipe and overflow with sight glass fitted, as well as level alarm. Air pipes from D.B. tanks 3 & 4 increased as per Rules and air pipes from oil fuel tanks fitted with gauze wire. A new weirs type oil fuel transfer pump and the oil fuel pressure unit removed from S.S. "Iron Yampi" as per Whyalla letter dated 4.7.55 now fitted and arranged for stopping from outside the compartment. Quick closing valves fitted to suction from settling tanks and operated from deck. A CO2 fire extinguishing system has been installed in accordance with the Rules, save all fitted at furnace mouths, sand boxes port and starboard in boiler room, two portable and one 35 gallon froth extinguisher provided. All transfer and low pressure lines in the oil fuel system have been tested and the hot oil lines to the burners tested to 400 lbs/sq in. The minimum distance from boilers to oil fuel tanks is 4 feet. After installation the oil fuel and boiler plant tested under working conditions.

To complete the Survey the propeller sea inlet and main discharge valves and blow down cocks and outside factenings remain to be examined.

L. K. L. Bink.

