

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

(Received at London Office)

-8 NOV 1935

Survey held at Port Hedland W.A. Date, First Survey 25<sup>th</sup> Sept Last Survey 4<sup>th</sup> October 1935  
 Machinery of the Wood, Iron or Steel Screw Steamer "MINDEROO" (No. of Visits Continuous)  
 Vessel built at Glasgow By whom G. Bonnell & Co Ltd When 1909 4 Mo  
 Engines made at Glasgow By whom Dunsmuir Jackson & Co Ltd When  
 Boilers, when made (Main) (Donkey)  
 Owners West Australian Steam Navigation Co Ltd Owners' Address  
 Managers Bethell Gwynn & Co (if not already recorded in Appendix to Register Book.)  
 If Surveyed Afloat or in Dry Dock Afloat Port London Voyage to Austral & Malay States  
 (State name of Dock.) Alongside Port Hedland Jetty.

Port Port Hedland W.A.  
 Examination and Repairs (if any) Engine, Damage

When held, must be reported in detail and seriatim in the terms of the Rules. State clearly the nature and extent of Examinations and subsequent Repairs. Repairs on the cause of which must be stated should be separated from Repairs due to other causes; and in the body of the report, should be briefly summarised at the end of the report. State also the reasons for this case. 11-10-35 WGD/RA

If the Surveyor has not made a special damage report he is required to state whether he has for this purpose, and why they were declined.

made by anyone else? If so, by whom? No

Do you go inside each Main Boiler separately and make a thorough examination at this time?

Donkey " " "

Does what reason?

Does could not be thus thoroughly examined?

In the absence of internal examination, were adopted by the Surveyor the thorough efficiency of those parts of each Boiler?

Internal examination of each boiler

the Safety Valves of the Main Boiler?

To what pressure were they afterwards adjusted under steam?

the Safety Valves of Donkey Boiler?

To what pressure were they afterwards adjusted under steam?

all the manholes, doors and their fastenings of the Main Boilers?

and of the Donkey Boilers?

the drain plugs of the Main Boilers?

and of the Donkey Boiler?

all the mountings of the Main Boilers? Yes (Generally & externally)

and of the Donkey Boiler?

drawn and examined?

Is it fitted with continuous liner?

Is an approved appliance fitted at the after end of the shaft to permit of it being efficiently lubricated?

used? If so, state reasons

been previously used?

Has it a continuous liner?

Is an approved appliance fitted at the after end of the shaft to permit of it being efficiently lubricated?

of Screw Shaft

State the distance between lignum vitae or bearing metal of stern bush and top of after bearing of screw shaft

referred to by numbers, should be counted from forward.

Is electric light and/or power fitted? Yes

State, state what arrangements have been made for its completion and what remains to be done. This survey was made for the purpose of ascertaining the nature and extent of damage which is alleged to have occurred when the vessel ran on a sand bank at Port Hedland on 14<sup>th</sup> September 1935, during a voyage from Port Hedland to Singapore via Port. For further particulars see Log Books.  
Examination of the vessel afloat alongside Port Hedland Jetty found:

Main Steam pipe pushed in 2" (two inches) into expansion gland  
Water Main Steam pipe pushed in 4" (four inches) into expansion gland and studs  
up against the gland.

Steam pipes cracked at neck where they join the breeches pipe.

Steam pipes buckled where they pass through screen bulkhead.

Stop Valve broken right off at neck of the flange which bolts on to engine  
and cranked up bodily on after end so that, although the cylinders are intact and in

operation, Opinion, and Recommendation:—

Recommendation, 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 required to be made in the records of the vessel's machinery, boilers, working pressures, &c.; thus, for example, B.S. 9, 11, R.A.M.S. 9, 11, & L.M.C. 9, 11, or B.S. F.D., &c.)

In the case of this vessel's machinery, that the classification be retained in the  
book subject to permanent repairs being carried out at the earliest opportunity.  
and fit to be towed to Port of Repair.

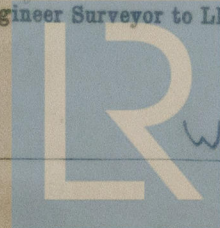
Fee applied for 8<sup>th</sup> Oct 1935  
 Received by me, W. G. Davies  
 19

Minute TUE. 12 NOV 1935

TUE. 15 DEC 1936

Deferred

Engineer Surveyor to Lloyd's Register of Shipping.



W537-0271 Register Foundation

Attached to this Report is an outline of the particulars and sequence of work to be done to engines (and hull) in order to place the vessel in the same condition as she was in prior to grounding at Port Hedland, together with an estimate of the cost of such permanent repairs, which information was given by the Ship's Agents and Lloyds Agents.

The whole of the temporary repairs have now been seen satisfactorily and an Interim Certificate has been issued to the effect that the vessel is fit to be towed to Port of Repair and that she be continued as subject to permanent repairs to engines & hull being carried out at earliest opportunity.

W. G. Davies.

# Steel Screw Steamer "MINDEROO"

line with each other, the L.P. cylinder is one foot higher than the H.P. cylinder.

Pist. Pump foot broken on Port side

Gratings upset and coated

L.P. Piston lying aft at bottom but not bent.

L.P. Guides parallel.

H.P. cylinder starboard foot and column top showing opens (bolts appear to be strained)

Evaporator Valve to Main Condenser fractured at neck on reduction pipe

Main Engine Sanitary discharge pipe (3" diam copper) collapsed on both bends

Main Engine After Bilge Pump discharge pipe (3" diam copper) collapsed in two places

Main Engine Bedplate. Immediately aft of the I.P. column and between butt

flange of Forward section of bedplate, it is cracked in three places on the starboard side only. Starboard side of bedplate cracked right through and opened

out at a point forward of the starboard L.P. column.

Port side of bedplate is cracked and opened out more extensively at a corresponding position

Aft of L.P. column on the starboard side, the bedplate is broken and opened out  $1\frac{1}{4}$ " (One and a quarter inches) and set up. This fracture is between the L.P. column and No 6 Main bearing.

A fracture similar in location and magnitude exists on the Port side of bedplate. The L.P. crank, when lying at  $30^\circ$  from the horizontal on the Port side, opened out at top  $\frac{3}{4}$ " (three quarters of an inch) between webs and the after web is pulled away from pin and in addition the L.P. crank pin appears to be bent.

The inner face of the L.P. after crank web appears to be  $\frac{5}{8}$ " (five eighths inch) aft of its original position on top in present position of crank, and the pin appears to be  $\frac{1}{4}$ " (one quarter of an inch) in from the web on the outside face. The After face of the L.P. after web is not parallel with the Main bearing ends, but is  $\frac{9}{32}$ " more than parallel at bottom.

Other parts appear to be intact except that the I.P. crank shaft appears to be bent slightly but will need to be tested <sup>in lathe</sup> to prove this.

Starboard H.P. column cracked at flange on foot at forward port side.

(This appears to be an old crack)

at shaft. The Thrust shaft appears to be bent and lifted 6" (six inches) on forward thrust bearing and all shoes are broken away at starboard side, while three shoes are broken right through. Caliper and line tests of Thrust shaft, taken in position later, showed that it is approximately (one sixteenth of an inch) out of true in the entire length.

Adjusting screw bearing caps only on starboard side of Thrust block asked, but block is otherwise intact.

Tunnel bulkhead gland fractured and lifted.

at shafting. First intermediate shaft bent and lifted 1" clear of No 1 tunnel bearing and cap is pushed up on this bearing. All other tunnel shafting

bearings are intact and seatings good.

Dynamo engine appears to be intact, but lifted bodily with the rising of the tank tops and bases without affecting steam and exhaust pipes

Fan Engine The Fan Engine lower casing slightly buckled, but fan appears to be good, but canted slightly in conformity with upset in Main Condenser. Main condenser delivery Gate Valve (lying in horizontal) is cracked 18" (eighteen inches) along the after side. Condenser otherwise

Main Injection Valve Flange still on ship's skin but neck cracked about one away from flange. Now seen blanked off and cement boxed.

Main Discharge Pipe Main Discharge pipe about 10½" (ten and a half) diameter, buckled slightly at two bends, but not seriously. (This is underwater discharge).

General Service General service discharge valve box broken.

Main Engine pumps After bilge pump Main Engine, suction Valve box broken at flange.

Main Bilge Line Main bilge suction lead pipe broken off at neck of flange at distributing box. Several lead pipe flanges need minor repairs.

Fresh Water Service Fresh Water suction pipe to fresh water pump from tank range and one Tee piece broken.

Ballast Line 6" (six inches) diameter cast Iron pipe with a 3½" brass found cracked. One filling and one air pipe on No 4 Port tank, one filling and one air pipe on No 5 tank cracked near flange on tank. One suction pipe to No 4 Starboard Tank cracked near flange on tank top.

Structures in Machinery Spaces Starboard side Pillar bent slightly and attached to it and supporting Engine Room Stow, torn off and set (ten inches)

Port side Pillar bent in a wide sweep 22½" (twenty two and a half) out of line.

Bearers for Engine Room floor plates pushed up in conformity with in Hull, particularly in way of dynamo and No 6 Main bearing, with the point of maximum stress.

Recommended that the following temporary repairs be done in order to place in a seaworthy condition so that she would be fit to be towed to Port of Perth.

Main Engines Disconnect intermediate tunnel shafting from tail shaft and pass ways on tail shaft bearing to enable towing collar to be well lubricated.

Ballast Line Cement box to be placed round <sup>fracture in</sup> six inch cast Iron pipe which constitute Main ballast range.

One filling and one air pipe on No 4 Port Tank, one filling and one air pipe on No 5 Starboard Tank which were cracked in flanges to be cut away and plugged.

One suction pipe to No 4 Tank which was cracked near flange on tank top to be wrapped and cement boxed.

Bilge Lines All Engine Room and Hold bilges to be cleaned and well flushed and made clear, so that all bilges can be pumped out if required.

The items relating to Engines ~~are~~ as shown in the foregoing Report are clearly a damage except two items here specified, namely, the Main Condenser Delivery Gate Valve appears to have been cracked at some time previous, but which crack appears to have extended at the time of grounding; also the Starboard H. P. column crack at the foot of which appears to be an old one.