Rpt. 9. No. 17977.

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

(Received at London Office 1 8 JAN 1942)

Date of writing Report 19th Decmbr. 19 41 When handed in at Local Office 20th Decmbr. 19 41 Port of SOUTHAMPTON

No. in Reg. Book. 25700 Survey held at SOUTHAMPTON Date, First Survey 20th July. Last Survey 12 Decmbr. 19 41 (No. of Visits 32.)

on the Machinery of the ~~Wood, Iron or~~ Steel TANKER S/S INVERARDER

Tonnage { Gross 5578 Net 3367

Nominal Horse Power 517

No. of Main Boilers 3

No. of Donkey Boilers —

Steam Pressure— in Main Boilers 180 lb/□" in Donkey Boilers —

Vessel built at SUNDERLAND By whom SIR J. LAING & SONS, LTD. When Year 1919 Month 7

Engines made at SUNDERLAND By whom G. CLARK, LTD When 1919 -

Boilers, when made (Main) 1919 (Donkey) —

Owners BRITISH MEXICAN PETROLEUM CO. LTD. Owners' Address — (if not already recorded in Appendix to Register Book.)

Managers R. A. CARDER Port LONDON. Voyage —

If Surveyed Afloat or in Dry Dock No 6 DRYDOCK & H9 BERTH. (State name of Dock.)

Last Report No. Port

Particulars of Classification (which must be inserted precisely as in Register Book & Supplements).

CHARACTER. ✠ for Special Survey Date of last Survey and of Periodical Surveys.	Years assigned or required.	Machinery and Boiler Surveys (including date of N.B., if any).
✠ 100 A1.		✠ LMC. 4-38
5-41		B.S. 5-41
SS Bel No 3-3-34		T.C.L. 11-39
SS Fal No. 1-38		
CARRYING OIL FUEL IN BULK F.P. ABOVE 180° F.		
FITTED FOR OIL FUEL. 7-19 F.P. ABOVE 150 F.		

Insert Character of Ship and Machinery precisely as in the Register Book

Particulars of Examination and Repairs (if any) DAMAGE & LMC.

(Periodical Surveys, when held, must be reported in detail and seriatim 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.

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 Not Required.

Was a damage report made by anyone else? If so, by whom? Mr Parker Underwriter.

Did the Surveyor personally go inside each Main Boiler separately and make a thorough examination at this time? YES

" " Donkey " " "

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 20/10/41 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 lb/□"

Did the Surveyor examine the Safety Valves of Donkey Boiler? — To what pressure were they afterwards adjusted under steam? —

Did the Surveyor examine all the manholes, doors and their fastenings of the Main Boilers? YES , and of the Donkey Boilers? —

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? —

Has screw shaft now been drawn and examined? No 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? —

Has shaft now been changed? — If so, state reasons —

Has the shaft now fitted 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? —

State date of examination of Screw Shaft — State the distance between lignum vitæ or bearing metal of stern bush and top of after bearing of screw shaft 1/8"

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.

Now dry for damage:- stated to have been sustained during Enemy action on the 20th June 1941.

NOW DONE FOR DAMAGE:- Vessel placed in drydock, propeller, after end of stern tube, sea connections, with their inside and outside fastenings examined, wear down taken regarding as above. All ship side valves and cocks opened up, examined and overhauled.

Main Engines:- Cylinders, covers, liners, pistons with rings and rods, valves with liners and facts and spindles.

P.T.O.

General Observations, Opinion, and Recommendation:— The Machinery of this vessel is

(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 ✠LMC 140 lb., F.D., &c.) CS 3,34,

in a good and efficient condition, and should in our opinion to remain as classed and to have fresh record of survey ✠ LMC. 12/41

LICENCE No. 1281 dated 1st July 1941

Survey Fee (per Section 29) L.M.C. Electrical	£ 14 : 0 : 0 / 1 : 0 : 0	Fees applied for 31/12/1941	
Special Damage or Repair Fee (if any) (per Section 29.)	£ 31 - 10 - 0	Received by me, 19	
Travelling expenses (if chargeable)	£ : :		

R. A. Johnston & [illegible]
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute TUE. 27 JAN 1942

Assigned + LMC 12.41

CERTIFICATE WRITTEN

The Surveyor is requested not to write on or below this space for Committee's Minute.

Is a Certificate required? If so, to be sent to

W1196-0050 1/2

Contd./

Main Engine:- relief valves and domes, impulse valves, chest and controls, connecting rods with their top and bottom end brasses, link gear, eccentric rods with straps and slings, crankshaft bifid examined along with both halves of main bearings, bridge readings taken, Thrust block, shaft, intermediate shafts examined, stern bearings removed and examined along with bulkhead gland and stuffing box. All bearings adjusted, shafting re-aligned, keepers and holding down bolts examined, all aforesaid either found or placed in good order./

Turning engine and reversing engine opened up and examined in their entirety.

Main Engine driven pumps:- (Air, Fwd & Bilge) opened up and examined along with rockers, spindles, levers &c.

Main and Auxiliary Condensers:- degreased and examined and tested.

Main and Auxiliary steam pipe lines:- degreased and examined under hydraulic test to rule requirements.

Main Circulating pump:- opened up and examined in its entirety.

The following Auxiliaries opened up and examined in their entirety:- Weir feed pumps, Ballast pump, general service pump, fire pump, Cargo ballast pumps, fan engine,

Stokehold Unit Heater:- both fuel pumps opened up and examined in their entirety, the fuel oil heaters opened up, casings examined and tested, coils annealed and tested, mountings examined, filters examined./

Weir feed heater examined internally and externally along with mountings.
Evaporator:- opened up, examined, coil annealed and tested, mountings examined

Main Boilers 3 in number:- examined internally and externally along with manholes, doors etc. mountings opened up, examined and overhauled, boilers examined under hydraulic test, afterwards examined under steam and safety valves set to 180 lb/□".

Fuel oil system:- header suction and discharge valves, deck controls, pipes and joints examined under working conditions and found satisfactory

Electrical Equipment:- Generator examined in its entirety and found & placed in good working order. Motor overhauled, examined and megger tested. Electric fittings and cables on main and aux. distribution circuits examined along with switchboard gear, fuses & switches and found & placed in satisfactory condition. Insulation resistance test carried out on all circuits and found & placed in good condition above rule requirements./

Bilge pumping arrangements:- pipes, valves, strum boxes etc examined and arrangements examined under working conditions.
all cargo ballast pipe lines & valves examined and tested
all hold heating coils and units examined under test.
Main and Auxiliary Machinery examined under full working conditions and found to be satisfactory./

DAMAGE REPAIRS:- All cargo ballast line pipes and valves renewed & repaired as required
all hold heating coil pipes and valves repaired & renewed as required.
Several engine room and stokehold pipes renewed as required.
Bolted doubler plate fitted to centre boiler air casing.
All packings renewed.
Dynamo armature and field overhauled.
6 holding down bolts renewed.

Port of SOUTHAMPTON Continuation of Report No. 17977 dated 19th December, 1941, on the

TANKER "S/S INVERARDER"

Contd./

REPAIRS FOR WEAR & TEAR:- L.P. cylinder piston rod neck bush, renewed, piston and valve rings adjusted, all link brasses, top and bottom end brasses with main bearings and eccentric straps adjusted.
Tunnel shaft stern bearings, gear remetalled.
Turning engine:- valve chamber refaced, new piston valve fitted, piston rings renewed, brasses adjusted.
Reversing engine:- valve chamber refaced, new piston valve fitted, piston rings renewed, bearings adjusted.
Main Engine driven pumps:- several air pump valves renewed, bilge and fwd pump valves overhauled, all pump link & rocker brasses adjusted.
Main Condenser:- front tubes renewed.
Dynamo Engine:- crankshaft tried for truth in lathe, new piston rings fitted, bearings adjusted.
Outboard Weir feed pump:- suction and discharge valves machined.
Inboard Weir feed pump:- suction and discharge valves and seats machined, discharge seat stopper pin renewed, bucket rod machined new gland and neck bushes fitted, piston rod machined, gland and neck bushes renewed, shuttle valve chest reconditioned
Main Circulating pump:- piston rod machined, gland and neck bushes renewed, piston rings renewed, impeller outer bush reworked.
Ballast pump:- new piston and buckets renewed, valves refaced, valve seat and stem valve chest renewed, supplied by owners.
Fire pump:- water chamber liners bored, buckets renewed, valve spindle drill neck and gland bushes renewed.

Cargo Oil fuel ballast pump:- Outboard pump, new buckets with rings fitted, plunger rod machined, new gland and neck bushes fitted, S.&P. valves overhauled.

Cargo Oil fuel inboard pump:- S.P. valve chests overhauled.

Fan Engine:- new piston rings fitted.

T.O.F.

Copies sheet to Mr Lee
For ...

It is submitted that this proof is suitable for the RECORD. Hugo C. 23/1/43

23/1/43