

COPY



SYDNEY. N.S.W.

22nd July, 1943.

Jas. C. ERSKINE

WILH. WILHELMSEN AGENCY PTY. LTD.

as Agents for

THE UNITED STATES OF AMERICA WAR SHIPPING ADMINISTRATION attend upon the Steel Steam Tanker "M O B I L E" of New York, 10222 Gross Registered tons, afloat in Sydney Harbour, for the purpose of making an examination of the vessel for damage stated to have been caused by enemy action on the 18th January, 1943, shortly after leaving Sydney, N.S.W. in ballast, on a voyage to a U.S. Port, and which made it necessary for the vessel to be towed back to this port.

Upon examination, found:- The vessel badly holed on the port side in way of the after end of the machinery space, which was flooded to a height of about eighteen inches above the platform deck for the electrical machinery on the port side, and the workshop and refrigerating machinery room on the starboard side.



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Tanker "MOBILUBE"

(Continued)

In order to tip the vessel to permit of further examination, the fuel oil in the bunkers and water ballast in the after cargo tanks was discharged and the forward cargo tanks filled, the drafts being eventually approximately 41'-6" forward and minus 1'-6" aft.

Upon examination it was then found :- The vessel holed on the port side at the after end of the engine room, this hole extends for a length of about 36 feet, and from the inner bottom plating to above the lower deck on which the boilers and store room are situated. The shell plating and frames in the vicinity of this hole badly distorted and fractured, the damage extending from the forward end of the engine room to the after peak bulkhead, and from the keel to the sheerstrake.

On the starboard side a number of the shell plates found holed, the size of these holes varying from about 5'0" by 3'0" to about 9" diameter, and the shell plates and frames distorted and a number of rivets missing.

The deck plating, beams, longitudinal stiffening and pillars under the port boiler found very badly distorted.

The internal structure in Nos. 2 and 3 double bottom tanks found badly damaged on the port side and the inner bottom plating in way of these tanks holed and badly distorted. Slight damage only was found in No. 1 double bottom tank under the main engines, and in the after peak tank. These tanks were found to be tight.

DETAILS OF DAMAGE

FOUND

SHELL PLATING

(All shell plates numbered from forward)

Nos. 15, 16 and 17 Keel plates indented and torn.

RECOMMENDED.

The vessel be dry docked, the temporary hull repairs be removed and the alignment of the after portion of the vessel tested and dealt with as may be found necessary.

To be renewed.



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FOUND

RECOMMENDED

ON THE PORT SIDE.

A Strake, Nos. 15.16 and 17 plates indented and torn.

To be renewed.

B Strake Nos. 16 and 17 plates indented and torn.

To be renewed.

C Strake, Nos. 17. 18 and 19 plates torn and missing

To be renewed, doubling plate on C17 in way of sea inlet valve to be renewed.

C Strake No. 20 plate indented at forward end.

To be cut and part renewed. (Boss plate overlaps)

D Strake, No. 17 plate indented.

To be renewed.

E Strake, Nos.16.17.18 and 19 plates indented or missing

To be renewed.

E Strake No. 20 plate indented at forward end.

To be cut, and part renewed. (Boss plate overlaps)

F Strake, Nos. 15.16 and 17 plates indented or missing

To be renewed.

F Strake, No. 18 plate slightly indented at forward end.

To be faired in place.

G Strake, No. 15 plate slightly indented at after end.

To be faired in place.

G Strake Nos. 16.17 and 18 plates badly torn.

To be renewed.

G Strake, No. 19 plate slightly indented at forward end.

To be faired in place.

H. Strake, Nos.15.16 and 17 plates indented and torn

To be renewed.

J Strake, No. 15 plate slightly indented at after end.

To be faired in place.

J Strake, No. 15 plate indented

To be removed, faired and replaced.

J Strake, No. 17 place slightly indented at forward end.

To be faired in place.

K Strake, No. 15 plate indented

To be removed, faired and replaced.

On the Starboard Side.

B Strake, No.17 plate indented

To be renewed.

C Strake, Nos.18 and 19 plates indented and torn.

To be renewed

E Strake, Nos. 18 and 19 plates indented and torn.

To be renewed

F Strake, No. 16 plate indented and torn

To be renewed

Tanker "MOBILUBE"

(Continued)

FOUNDRECOMMENDED.

F Strake, No. 17 plate indented

To be removed, faired and replaced.

G Strake No. 16 plate indented and torn

To be renewed.

G Strake, No. 17 plate indented.

To be removed, faired and replaced.

In Way of the Above.

Inner bottom plating in way of Nos. 2 and 3 double bottom tanks distorted and torn.

To be renewed.

Centre girder in way of Nos. 2 and 3 double bottom tanks indented.

To be renewed.

All floors and intercostals in port side of Nos. 2 and 3 tanks badly distorted.

To be renewed.

Manhole Coamings and doors for port side of Nos. 2 and 3 double bottom tanks badly distorted.

To be renewed.

Four built pillars supporting boiler flat, two on port side missing and two on starboard side distorted.

To be renewed.

Two seats for intermediate shaft bearings badly distorted.

To be renewed.

Pump seating in way of frames Nos. 21 and 22 distorted

To be removed, faired and replaced.

After peak tank bulkhead slightly indented.

To be faired in place.

Cross tie plates on frames Nos. 7 and 8 very slightly buckled (in after peak tank)

To be faired

On the Port Side :-

Frames Nos. 10 to 29 with their brackets to inner bottom plating, boiler flat and upper deck badly distorted and part missing.

To be renewed.

Two stringers in boiler flat and one stringer below boiler flat with their brackets badly distorted and part missing.

To be renewed from after peak bulkhead to frame No. 30

Web frame No. 30 badly distorted.

To be renewed with all brackets.



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Tanker "MOBILUBE" (Continued)

FOUND

RECOMMENDED.

IN MAIN ENGINE ROOM. Port Side:-

Vertical plates and brackets of main turbine seating slightly distorted.

To be faired.

Longitudinal frames between web frames Nos. 30 and 34 distorted below generator flat.

Four upper frames to fair at after end and five lower frames to be renewed.

Web Frame No. 34 distorted

To be renewed.

Longitudinal frames between web frames Nos. 34 and 38, fourth and fifth frames, and brackets at after ends of second and third frames from bottom distorted

To be renewed.

Platform deck (Generator flat)

This deck is very slightly set up for its full area.

If complete repairs are carried out, the three turbo generators and main switchboards on this deck, and the condensers, piping and electric cables under deck would require to be removed for access and afterwards replaced. It is recommended that a further examination be made in conjunction with the Owners' Representatives to determine the extent of the repairs considered necessary. Recommended that only the coaming plate be renewed and the brackets to web frames and upper end of after pillar be faired.

On the Starboard Side :-
(Between inner bottom plating and boiler flat)

Frames Nos. 12 and 13 slightly distorted.

To be removed, faired and replaced.

Frames Nos. 14 to 29 distorted

To be renewed or part renewed.

Web Frame No. 30 slightly distorted.

To be faired in place.

Frame Brackets to boiler flat beams, Nos. 5, 8 & 9 distorted.

To be renewed.

Brackets for spare propeller shaft on frames Nos. 14 & 18 slightly distorted.

To be removed, faired and replaced.



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Tanker "MOBILUBE" (Continued)

FOUND

RECOMMENDED.

Gross ties on frames Nos. 12 & 13 distorted.

To be renewed.

Brackets to inner bottom plating on frames Nos. 15 to 26 distorted.

To be renewed.

Platform Deck (Workshop flat) Coaming plate badly distorted at after end.

To be renewed for a length of about 12 feet.

After pillar, top brackets distorted.

To be renewed.

Boiler Flat :-

Deck plating, deck beams, longitudinal stiffening and boiler seating badly distorted and torn on port side.

Boilers to be lifted, and deck in way completely renewed.

Watertight bulkhead between engine and boiler rooms distorted and torn for width of engine casing and on port side.

To be renewed.

Twelve Bulkheads stiffeners badly distorted.

To be renewed

Watertight door and its gearing broken and distorted

To be renewed.

All frames, brackets and two stringers on port side distorted.

To be renewed.

Escape trunkway at back of boilers damaged at bottom

About six feet at bottom to be renewed.

Ladder for escape trunkway distorted and part missing

To be part renewed.

Steel store room abaft boilers, with its expanded metal top and steel shelves and bins badly distorted.

To be renewed.

Requered floor plates and seams in port side missing

To be renewed.

Engine room and stokehold ventilators damaged at bottom

Portions under upper deck to be renewed.



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Banker "MOBILURE".

FOUND.

Upper Deck Plating :-

On port side, at after end of boiler casing, holed and worn.

Accommodation :-

The furniture and fittings in the accommodation spaces on the port side, aft, displaced and moved from the fastenings.

Steering Gear.

The main turbine gear case slightly out of alignment and a number of holding down bolts and bolts securing turbines to gear case broken. The mild steel gear case slightly indented and holed locally.

NOTE: The turbines and gears are opened out, rotors lifted and examined with the gears and shafting and appear to be damaged.

The turning gear and motor damaged.

The intermediate stop (regulating) lives apparently undamaged.

Two lengths of intermediate shaft bent and the coupling bolts broken or stretched.

The propeller shaft apparently damaged.

The liner on the spare propeller shaft slightly damaged by fragments and the coupling flange slightly distorted.

RECOMMENDED.

Plating about 8'-0" by 8'-0" to be renewed.

To be refastened and refitted as original.

The motors to be cleaned and tested, control gear and piping examined and the complete steering gear tested.

MACHINERY.

The main turbines be removed from the vessel, motors, gears and shafting be examined and tested, the whole lined up in a workshop gear case faired and repaired, condenser tested and the machinery refitted.

To be renewed.

To be opened out, examined and tested.

Intermediate shafts and all coupling bolts to be renewed.

To be tested in lathe for fairness.

To be reconditioned.



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ker "MOBILUBE".

AUXILIARY MACHINERY

FOUND

bines and gears for two
Kwtt. generators and one
kwtt. generator apparently
damaged except by sea water.

RECOMMENDED.

To be opened out, cleaned
and adjusted.

The following badly damaged or missing, to be renewed:-

1 type torsion meter
sanitary pumps
bilge pump
main fire pump
General service pump
drinking water pump
main feed pump
Compressor

The above pumps all electrically driven, except the feed pump
which is turbine driven, and the new pumps to be complete with
motors, starters and control boxes.

The following to be opened out, cleaned, examined and tested,
electric motors to be rewound and starters reconditioned.

and lower lubricating oil coolers
1 Exhauster condenser
Main condenser
air ejector
main feed pumps - Turbo driven
fuel oil service pumps
lubricating oil purifier
fuel oil transfer pump
main cargo pumps
cargo stripping pumps
bilge pump
main circulating pump
main condensate pumps
and exhauster pump
auxiliary condensate pump



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Tanker "MOBILIANE".

Evaporator

Two fuel Oil heaters

Auxiliary circulating pump

One wash water pump

One evaporator feed pump

BOILERS.FOUND

When permanent repairs are carried out the port and starboard boilers will require to be removed for access to repairs to the boiler room deck and the boiler seatings.

The starboard boiler apparently undamaged, structurally, but the firebrick lining and insulation damaged by sea water.

The port boiler tubes found distorted, the relative positions of the two drums altered, some mountings broken and the casing and piping distorted.

Uptakes for both boilers distorted.

Main steam pipes in engine room apparently undamaged, distorted in boiler room.

Auxiliary steam pipes, badly damaged in boiler room and after end of engine room and partly missing.

About 50% of oil and water pipes in boiler room and after end of engine room badly damaged.

Automatic firing control panel missing.

Boiler room gauge board missing.

Chequer plate platform and bearers on port side of boiler room missing.

About 30% of gratings and ladders in engine and boiler rooms damaged or missing.

RECOMMENDED.

All mountings to be opened out and overhauled, joints renewed and the brickwork and lagging renewed as necessary.

The boiler to be removed from the vessel, tubes, mountings and casing to be renewed as necessary after detailed examination.

To be repaired as necessary.

All steam pipes to be removed, faired or renewed as necessary and tested.

All steam pipes to be removed, examined and faired or renewed as considered necessary.

To be faired or renewed as considered necessary.

To be renewed.

To be renewed.

To be renewed.

To be renewed.



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Tanker "MOBILURE"FOUND

Spare gear damaged by sea water and part missing.

Three engine room telegraphs, (bridge, after steering compartment and boiler room) slightly damaged.

Main engine gauge board and all fittings damaged.

Perry salt indicator panel and motor damaged by water.

Telephone booth and equipment missing.

MACHINE SHOP EQUIPMENT:

Lathe, every grinder, shaping machine and drill (all motor driven) damaged by sea water.

A number of machine tools missing.

ELECTRICAL EQUIPMENT:- Damaged by immersion in sea water -

Main switchboard, motor generator switchboard, and main cargo pump switchboard to be completely dismantled and all instruments and fittings reconditioned and renewed as necessary.

Two 300 Kwtt. Generators, one 50 Kwtt. generator and two motor generator sets, armatures and field coils to be rewound, brush gear and bearings to be reconditioned.

Electric wiring and fittings in engine and boiler rooms to be renewed.

All motors in engine room not mechanically damaged to be rewound, reconditioned and tested. Starters to be reconditioned.

REFRIGERATING EQUIPMENT AND STORE ROOMS:-

Two cylinder Ammonia refrigerating machine to be opened out, cleaned, adjusted and recharged. Store rooms to be cleaned out and the installation tested.

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HOW DONE:- When the vessel had been tipped, the engine room cleared of water and the loose debris removed, after further examination and consultation with all interested parties it was arranged that owing to local conditions the minimum temporary repairs necessary to enable the vessel to be towed to a United States Pacific Port be carried out. It was later arranged that the vessel be used as a non propelling floating oil depot ship and the following repairs were carried out:

RECOMMENDED.

Damaged spare gear to be reconditioned, and missing spare gear replaced.
(see Inventory)

To be reconditioned.

To be renewed.

Motor to be rewound and panel reconditioned and tested.

To be renewed.

Machine tools to be reconditioned and all motors resound.

Missing tools to be replaced
(see Inventory).



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Tanker "MOBILUBE"AS TEMPORARY REPAIRS :- PORT SIDE:-

The badly damaged shell plating, frames, boiler room deck and inner bottom plating were partly cut away and removed from the ship.

The opening in the port side was closed by 6" by 3" spotted gum and tallow wood planking.

As the shell plating at the bottom of the opening was badly set in and irregular, an angle iron to form the bottom margin for the planking was fitted at about the level of the tank top, and from this angle, fairing plates at about 45 degrees were fitted to the shell plating below. These fairing plates electrically welded to the shell plating and angle, and brackets at about two feet spacing were fitted between the fairing plates and the damaged shell plating. It was also found necessary to fit fairing plates at the lower forward end of the wood planking.

Sixteen 8 inch by 3 inch channel frames were fitted, these secured to the brackets for the fairing plates at the bottom and tapered and secured to the outside of the shell plating at the top. A 14 inch stringer was fitted slightly below the level of the boiler flat and a similar stringer about mid-way between that and the inner bottom plating. Cross ties were fitted between frames at about three feet above the tank top and twelve 12 inch channel beams were fitted under the damaged boiler flat. These stringers and beams all electrically welded and efficiently bracketed.

The area of the wood planking about 58 feet by 33 feet, a boundary angle was fitted all round this area, the planks bolted to the channel frames and inside straps 18 inches by 12 inches fitted at all butts. The planking caulked, painted with tar and bitumen, and sheathed with 16 gauge galvanised iron over a layer of tarred felt.

ON THE STARBOARD SIDE:- A number of rivets electrically welded, and doubling plates fitted over the damaged and torn plates:
On C 16, one doubling plate about 12" by 12" and two about 8" by 8".
On F 16, one doubling plate about 4'-0" by full width of strake.
At butt of E 18 and 19, one doubling about 2'-0" by 2'-0" and on E 19 one doubling about 4'-0" by 3'-0". On C 18, one doubling 4'-0" by 3'-0".

In order to stiffen the vessel and to protect the machinery, a water-tight bulkhead of 3/8" steel plate with 9" bulb angle stiffeners spaced 30 inches apart was fitted at web frame No. 30, extending from the inner bottom plating to the boiler flat. The original bulkhead above the boiler flat was repaired. Two hinged watertight doors were fitted in this bulkhead, one in lower engine room for access to feed and bilge pumps and one giving direct access to the boiler flat.

A doubling plate about 6'-0" by 4'-0" fitted on the damaged upper deck plating.

CEMENT: The port side of Nos. 2 and 3 double bottom tanks, the space between the damaged shell plating and the fairing plates and the damaged inner bottom plating on the port side were cemented.



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Tanker "MOBILUBE"MACHINERY

The main turbines and gears opened out, cleaned and coated with special grease to prevent deterioration and rusting.

The two damaged lengths of intermediate shafting removed.

The propeller removed and securely lashed on the forward deck.

The propeller shaft drawn and secured in after end of engine room. Blank flanges fitted at each end of the stern tube.

The main steam pipes between regulating valves and turbines removed and securely stowed.

In order to temporarily replace essential pumps which were badly damaged, a motor driven pump was fitted for sanitary service and a vertical steam simplex pump and a horizontal steam duplex pump fitted, each pump for fire or bilge service.

AS PART PERMANENT REPAIRS.

The steering gear placed in good working condition and tested.

The two 300 kwtt. turbo-generators and one 50 kwtt. turbo generator reconditioned and placed in good working condition.

All pumps and auxiliaries as noted on page 8 (except those found badly damaged or missing) overhauled and adjusted as necessary. The motors rewound, starters reconditioned and all placed in good working condition.

The starboard boiler cleaned, all mountings opened out, joints renewed and the boiler tested by water pressure to 600 lbs. per square inch. The firebrick lining and insulation renewed as necessary and the boiler placed in order for the normal working pressure of 450 lbs. per square inch.

Auxiliary steam pipes from starboard boiler to the generators and steam driven auxiliaries refitted and renewed as necessary.

Feed pipes and oil and water pipes sufficient for use with the starboard boiler were part renewed and all placed in working condition.

The boiler room platform was replaced in way of the starboard boiler, and a gangway arranged to the port side for access to valves.

Electric wiring and fittings in engine room partly renewed. As far as possible, the wiring renewed was arranged to be permanent.

The main switchboard, motor generator switchboard and main cargo pump switchboard with all instruments and fittings reconditioned and placed in good working condition.

The Refrigerating machine and store rooms placed in good working condition.

On completion of these repairs, all machinery except those auxiliaries which are essential for the main turbines only, was tested under working conditions and found satisfactory.



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anker "NORLIUBE" (Continued)

These recommendations are necessary in order to place the vessel in the same condition as she was in previous to sustaining the beforesaid damage, the temporary and part permanent repairs have now been seen satisfactorily completed, and complete permanent repairs remain to be carried out at the Owner's convenience.

A plan showing the damage to the shell plating and frames is furnished with this report.

(Sgd.) Jas. C. ERSKINE.

SURVEYOR TO LLOYD'S REGISTERS.



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