

COPY.

Lloyd's Register of Shipping.



Port OF MELBOURNE,

30th December, 1940.

This is to Certify that

----- P.A.MCINTYRE -----

the undersigned Surveyor to this Society did at the request of Lloyd's Agents for Victoria, (The Orient Steam Navigation Coy.Ltd.) and with the consent of the Owners, The Australian United Steam Navigation Coy. Ltd., survey the steel screw Steamer "OKUNGAAL" - 3826 tons gross of Melbourne, to report on the position and condition of the vessel subsequent to stranding off Barwon Heads, Victoria on the 21st November, 1940.

For further particulars, see Ship's Protest.

The undersigned was appointed on the 29th November 1940 and at 1.0.0.p.m. on the 30th November, proceeded to Barwon Heads in company with Representatives of Lloyd's Agents.

Barwon Heads lies some miles outside the entrance of Port Phillip Bay and 60 miles from Melbourne by road.

It was stated that the vessel stranded at 10.25 p.m. on the 21st November 1940 while on a voyage from Sydney to Melbourne with passengers and general cargo.

Heavy weather prevailed over the night of the 21st ult, and vessel rolled heavily but later settled firm on an even keel.

On grounding, the forward boilers were displaced, causing the body of a steam equalizing valve on forward starboard boiler to fracture

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fracture and all boilers then blew down.

On arrival at Barwon Heads about 3 o.p.m. on the 30th ult., it was impracticable to board the vessel on account of weather conditions, but the vessel was boarded at 7 o.a.m. on Sunday the 1st December, calm seas prevailing till after 4.30 p.m., the period aboard.

The undersigned found the vessel lying steady on an even keel on a bottom of sand and reef in an exposed position about half a mile off the mouth of the Barwon River, headed N.32° E. and in water of approximately 7 to 10 feet at low water.

All holds and bunker hold contained quantities of general cargo and a general examination of all cargo and machinery spaces was made, as far as accessible, when the undersigned FOUND:-

TANKS:- Fore peak tank - Soundings fluctuating with rise and fall of tide with an oily scum on the water surface, apparently due to a fractured tank suction line in one of the oil fuel double bottom tanks.

The fore peak tank suction valve at collision bulkhead was open at the time, allowing communication with damaged spaces aft.

Collision bulkhead appeared intact as far as accessible.

After peak tank:- Soundings 9' 6" and constant and tank appeared intact.

Double bottom tanks:- Before grounding, Nos.2, 3 & 4 tanks contained oil fuel, Nos.1 & 5 tanks water ballast and Nos.6, 7 & 8 tanks, fresh water.

All Double Bottom tanks excepting Nos.1 & 8 are divided tanks, and were flooded with salt or brackish water at the time of examination

Cargo and Machinery spaces:- All soundings at high water 1/12/40.

No.1 hold - (over No.1 D.B. tank) Sounding 3' 2" and making water slowly. Inner bottom not accessible for examination.

No.2 hold - (over cofferdam and No.2 D.B. tank) Sounding 8' 6" but stated to fluctuate from 5 feet to 11 feet with rise and fall of tide. Hold not accessible for examination.

Bunker cargo space - (over No.3 D.B. tank) contained cargo in hold and 'tween deck. Sounding 4' 5". The water surface had a heavy oil fuel scum.

A 6" independent engine driven salvage pump on this space and machinery spaces was holding the water, but not able to drain the spaces. An additional 6" salvage pump was being rigged and when functioning together, the two pumps and the ship's emergency bilge pump were able to gain on the inflow.

The bottom structure was not accessible, but two tubular hold pillars at forward corners of 'tween deck hatchway were set up 2 to 3 inches and hatchway coamings deflected, confirming a set up bottom in way.

Boiler Room. (Common with bunkers through a screen bulkhead and over No.4 D.B. tank and after bays of No.3 tank.)

Forward port and forward starboard boilers appeared to be lifted with stools. Equalizing valve chest on back end of shell of forward starboard boiler, fractured.

The two settling tanks between the forward boilers are embodied in a sub-divided tank of rectangular section extending from tank top of No.4 D.B. tank to about 4 feet from upper deck, bracketed to deck beams by two transverse and a middle line bracket.

The settling tank sides, where accessible, showed no distortion but were set up bodily, shearing rivets to deck beams (rivet hole blind) and deck beams and plating buckled upwards about 6 inches over five beam spaces. Tanks now open to stokehold probably through bottom plating seams or boundary bar connections.

The No.3 D.B. tank valve chest feet on screen bulkhead, fractured



fractured below flange to chest.

The water level with oily scum was practically constant and level with centre of low furnaces of boilers during the period of examination.

Engine Room:- (Over No.5 D.B. tank, lubricating oil tank and a coffer dam)

Separated from stokehold and bunker by water-tight bulkhead.

The water level was common with stokehold and about 1 foot below manoeuvring platform at time of examination.

An examination of accessible parts of main turbines, gearing and thrust block, showed no indication of measurable displacement.

Four 6 inch diameter solid pillars from tank top to engine room trunk, clear of engine seatings, distorted as follows:-

Forward port - slightly set up.

Forward starboard - slightly set up and top rivets sheared.

After port - bent $4 \frac{1}{2}$ inches and top rivets sheared.

After starboard - slightly set up.

Various gratings and platforms in wings, displaced.

One pipe in main lubricating oil circulating system, known to be fractured together with other piping.

The emergency bilge pump was holding the water in conjunction with the salvage pump in bunker space.

No distortion noticed in visible parts of water-tight bulkheads, but water-tight doors in forward bulkhead, stated to be jammed and forced draught fan trunkway on starboard side of engine-room set in 3 inches at bulkhead.

Water-tight door to tunnel, workable and efficient.

P.3 Hold:- (Over Nos.6 & 7 D.B. tanks) Sounding, Port 3' 6", Starboard 6" and constant.

Hold not accessible for examination, but by soundings, port side



side appeared to be making water, through after engine room bulkhead or tank tops of Nos. 6 or 7 D.B. tanks in which the water was stated to be slightly salted.

No. 4 Hold:- (Over No. 8 D.B. tank) Sounding - Port 10" and constant, Starboard 8" and constant.

This space not accessible for examination but appeared to be intact.

It was considered that the available independent pumps would enable the machinery spaces to be drained for further examination and temporary repairs, to permit steam to be raised in one of the ship's boilers, giving additional pumping capacity and steam for cargo handling to clear the holds prior to attempting to refloat the vessel.

The Owners proposed to discharge cargo into lighters and deliver it at Melbourne, this being considered the most economical and practical arrangement.

Barwon Heads is a holiday resort and has a small jetty inside the mouth of the Barwon River. No facilities were available for handling weights of any magnitude and the jetty is only accessible to craft of light draught, as fishing boats or ship's life-boats and then only on certain tides.

The undersigned recommended that salvage operations be continued, subject to a further examination of the vessel's structure before refloating.

FIRE DAMAGE.

At the request of Lloyd's Agents, a further examination of the vessel was made on the 20th December 1940 to report on the condition of the vessel following a fire on board while lying



lying stranded off Barwon Heads.

It was stated that salvage work was proceeding to the Owners' satisfaction. Anchors had been laid, hauling wires secured and an additional ten inch salvage pump had been placed in No.2 'tween deck, the water-tight bulkhead being out to pass the pump suction into the Bunker space.

The inflow of water into the engine room, boiler room and bunker space was under control and the boiler room and its equipment above the level of the tank tops had been cleaned down. The after port boiler was prepared and fires set away at 6.0.0.p.m. on the 11th December. Steam was used on the 12th instant for clearing damaged cargo from the bunker hold, hauling mooring wires and sundry services until 8 o.c.p.m. when the boiler was shut down trouble having developed through water in the oil fuel burning system.

Note:- The oil fuel remaining in the settling tanks on stranding was being used prior to draining the tanks for repairs. Refer to stranding damage under heading "Boiler Room".

Ten tons of fuel oil which had been lightered out to the vessel for subsequent use was stowed in drums on the after deck abreast No.4 hatchway.

At 2.15 a.m. on the 13th inst., nothing unusual was noticed in the boiler room.

At 2.30 a.m. the engineer on watch, who was attending the emergency generator engine on the boat deck, heard several muffled explosions and saw sparks emerging from the funnel. Access to the boiler room was immediately attempted but found impossible on account of fire, although the engine room was useable for a time until smoke forced the crew to withdraw.

Simultaneously, it was found that the accommodation spaces



spaces amidships were afire and the vessel had to be abandoned at about 4 a.m.

Hand chemical fire extinguishers were the only available fire fighting appliances.

No further contact with the vessel was possible until the 19th inst. when the Owners' Salvage Officer and crew boarded her.

The undersigned boarded the vessel on the morning of the 20th inst. in company with the Salvage Officer and found that the vessel had been gutted by fire from stem to stern, the only unburnt wood work sighted being a small area of deck sheathing on the forecastle head forward of the windlass.

The naval gun on the poop appeared to be undamaged.

The side plating, sheer strakes and superstructure side plating over the length of the vessel were buckled and distorted.

The engine room and boiler rooms were accessible by gratings and ladders above water level which was about one foot below the turbine manoeuvring platform at the time of examination and corresponded to the water level prevailing during the time of the previous survey on the 1st instant.

The 'tween deck or bunker space was accessible except on starboard side where the remains of some cargo was still smouldering.

Excepting these spaces, the examination was limited to spaces on or above the upper deck.

Forecastle. The deck head and after bulkhead had collapsed and spaces not accessible.

Deck. Burnt out. Gun ammunition had exploded and had torn and perforated deck plating in the vicinity. The gun appeared to be undamaged.

Upper Deck. Not accessible for examination. The upper deck in way of all holds had collapsed, the hatchway coamings at Nos. 1 & 4 hatches



hatches being practically at level of 'tween deck coamings. The fire was still smouldering in Nos. 1 & 2 holds.

Bunker space. The bunker hold was flooded and not accessible. The 'tween deck steel work was generally distorted through overheating.

Accommodation spaces. All accommodation, public rooms, navigating bridge, deck and Engineer Officer's quarters, and all working spaces on or above the upper deck, completely gutted.

The funnel paint work scorched but funnel appeared undamaged. The dining saloon was accessible on the starboard side but the port side was blocked, the steel work of boat deck, promenade deck and bridge deck having collapsed into saloon. The upper deck in way of dining saloon was set down along the middle line.

Accommodation spaces below the upper deck were not accessible and fire was still smouldering.

Boiler Room. Examined where accessible on boiler tops and ladders and gratings above water level.

Steel decks and upper strake of screen bulkhead distorted by heat, and an external examination showed buckled side plating of hull in way of boiler room.

As far as accessible for examination, no distortion due to overheating was found in boiler uptakes or fan trunkways.

Engine Room. Where accessible above the water level, structural damage appeared to be that due to the stranding except in way of the engine room trunkway through the accommodation spaces, and in vicinity of after bulkhead where signs of intense heat were evident.

Machinery. The boilers were accessible for external examination from the tops of boiler shells and upper gratings and no extensive fire



fire damage was found.

The main turbines and gear cases above water level were covered with charred material but as far as accessible, no external indication of extensive fire damage was found.

The various gauges and small fittings were damaged by heat, but the casing on turbines, although smoke stained, appeared undamaged.

The auxiliary machinery in wings of engine room was either submerged or inaccessible for examination.

On due consideration of the probable extent of the initial stranding damage, the nature and extent of the subsequent damage to the vessel by fire, the expenditure necessary to refloat the hulk, and the expenditure necessary to restore the vessel, in the opinion of the undersigned, the vessel is a Constructive Total Loss.

(Sgd.) P.A. Mc-INTYRE

MELBOURNE, 30th December, 1940.

Surveyor to Lloyd's Register.



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Lloyd's Register
Foundation

S.S. "ORUNGAL"

Melbourne Report N^o. 7667
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VIEWS OF BOAT DECK



Forward of Bunker Hatchway.



The Upper Deck at No.1
Hatchway.



The Upper Deck at No.4
Hatchway and Poop.



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