COR REF: CSU-2013-AUK-000532

CERTIFICATE OF FINDINGS

Section 94, Coroners Act 2006

IN THE MATTER of **Lailade OSUNSADE**

The Secretary, Ministry of Justice, Wellington

As the Coroner conducting the inquiry into the death of the deceased, after considering all the evidence admitted to date for its purposes, and in the light of the purposes stated in section 57 of the Coroners Act 2006, I make the following findings:

Full Name of deceased:	Lailade OSUNSADE
Late of:	228 I Green Lane West Epsom Auckland
Occupation:	Doctor
Sex:	Female
Date of Birth:	28 June 1979
Place of Death:	President Coolidge Dive Site Santo Vanuatu
Date of Death:	02 May 2013
Cause(s) of Death	
(a). Direct cause:	Drowning
(b). Antecedent cause (if known):	
(c). Underlying condition (if known):	
(d). Other significant conditions contributing to death, but not related to disease or condition causing it (if known):	
Circumstances of death :	See finding dated 15 December 2015

I make, under section 57(3) of the Coroners Act 2006, the specified recommendations or comments in that finding that, in my opinion, may, if drawn to the public attention, reduce the chances of the occurrence of other deaths in circumstances similar to those in which the death occurred.

Those findings, and my reasons for making them, are also set out in my written findings dated:
15 December 2015

Signed at Whangarei on 15th day of December 2015

Coroner H B Shortland

IN THE CORONERS COURT
AT WHANGAREI
(IN-CHAMBERS)

CSU-2013-AUK-000532

UNDER	**THE CORONERS ACT 2006**
AND	
IN THE MATTER OF	An inquiry into the death of **LAILADE OSUNSADE**
Date of Findings:	15 December 2015

FINDINGS OF CORONER H B SHORTLAND

Introduction

[1] Dr Lailade Osunsade, a New Zealand resident with American credentials was participating in a recreational diving expedition on the wreck of the *SS President Coolidge* located at Santo Island, Vanuatu on Thursday 2 May 2013 when she lost her life.

[2] Dr Osunsade had organised the day's diving through the tourist diving company, Aquamarine, in Vanuatu. She had been on a number of other dives with the same dive operator in the days prior to her death.

[3] She was kitted out with diving equipment and was participating in a one-on-one guided dive inside the wreck. During the course of the dive Dr Osunsade has become separated from her guide at a depth of 42 metres. When Dr Osunsade was found she was deceased having drowned.

[4] The Commissioner of Police in Vanuatu allowed the New Zealand Police National Dive Squad to carry out an extensive investigation. They found the equipment provided by Aquamarine to Dr Osunsade was substandard and the chartered dive on the afternoon of 2 May 2013 was ill-fated.

[5] The investigation found Dr Osunsade was not the most experienced diver for the diving environment of the *SS President Coolidge*. Whilst she had completed various courses, she did not have the experience to identify some of the technical aspects of safe diving in any form. This included being satisfied the diving equipment was of a safe standard and most importantly understanding the importance of dive buoyancy.

[6] There were other tourist divers involved in the same recreational expedition who came to assist Dr Osunsade but to no avail.

[7] Dr Osunsade's body was repatriated to New Zealand 11 days later and a post mortem examination was directed by the Duty Coroner on 13 May 2013.

[8] The Coronial Post Mortem report confirmed the direct cause of death was drowning in the context of a diving accident 11 days earlier.

[9] Jurisdiction was accepted by the Duty Coroner and an inquiry was opened pursuant to s 57 of the New Zealand (NZ) Coroners Act 2006.

Acknowledgement

[10] It is important to acknowledge that Vanuatu is an independent sovereign nation with its own laws and jurisdiction.

[11] I acknowledge the Vanuatu Police Commissioner at the time who, in agreement with representatives of the New Zealand Police provided a way forward in allowing members of the New Zealand Police National Dive Squad to visit Vanuatu for the purpose of carrying out an investigation on behalf of the New Zealand Coronial system with respect to this death.

[12] I also recognise the New Zealand (NZ) High Commission who have been working with the political authorities of Vanuatu to ensure the best possible investigation was carried out in the interests of both the New Zealand Coronial Service and the interests of the diving tourism of Vanuatu.

In Chambers Hearing

[13] In the context of the legal logistics of cross border jurisdictions the most appropriate legal process to investigate and provide a meaningful finding was by way of an in-chambers hearing.

[14] I am satisfied that proper notification in terms of this in-chambers hearing has been made pursuant to ss 77 and 80 of the NZ Coroners Act 2006.

Evidence

[15] I have reviewed the available evidence provided by a number of sources. Police from both the Vanuatu and NZ have provided the majority of evidence.

[16] There were many interviews conducted and statements taken by the NZ police.

[17] Technical evidence was provided with respect to the testing of the various components of the diving equipment. The NZ Institute of Enviromental Science & Research Limited (ESR) provided scientific results in terms of the oxygen quality in the dive tank used by Dr Osunsade on the fateful dive of 2 May 2013.

[18] Other evidence includes the post mortem report, prepared by Dr Joanna Glengarry and Dr Paul Morrow, both Forensic Pathologists in NZ. ESR also provided a toxicology report to complete the forensic post mortem results.

[19] The NZ Police produced a very comprehensive and compelling report. Over a 150 pages with detailed technical evidence and comments based on expert experience. The report consists of a thorough and detailed examination of the diving equipment used by Dr Osunsade during her recreational dive of 2 May 2013.

[20] The report was prepared by Sergeant Bevan Sheffield-Cranstoun, a member of the New Zealand Police National Dive Squad and peer reviewed by Senior Sergeant Bruce Adams, Officer in Charge of the New Zealand Police National Dive Squad (PNDS).

[21] There is also an impartial examination of the diving practices at the time. With PNDS making meaningful recommendations with respect to safe dive practices.

[22] The full list of evidence considered for this inquiry is annexed to this finding.[1]

The Law

[23] The purpose of a coronial investigation is to establish the facts and circumstances surrounding the death of an individual. In this situation a New Zealand resident, Dr Osunsade, died while diving in Vanuatu on 2 May 2013.

[24] The appropriate section of the New Zealand Coroners Act 2006 is s 57 which outlines the purpose of an enquiry:

> **57 Purposes of inquiries**
>
> (1) A coroner opens and conducts an inquiry (including any related inquest) for the 3 purposes stated in this section, and not to determine civil, criminal, or disciplinary liability.
>
> (2) The first purpose is to establish, so far as possible,—
>
> (a) that a person has died; and
>
> (b) the person's identity; and
>
> (c) when and where the person died; and
>
> (d) the causes of the death; and
>
> (e) the circumstances of the death.
>
> (3) The second purpose is to make specified recommendations or comments (as defined in section 9) that, in the coroner's opinion, may, if drawn to public attention, reduce the chances of the occurrence of other deaths in circumstances similar to those in which the death occurred.
>
> (4) The third purpose is to determine whether the public interest would be served by the death being investigated by other investigating authorities in the performance or exercise of their functions, powers, or duties, and to refer the death to them if satisfied that the public interest would be served by their investigating it in the performance or exercise of their functions, powers, or duties.

[1] APPENDIX 1

[25] It must be acknowledged the New Zealand Coroners Act 2006 has no jurisdictional influence or application in the sovereign nation of Vanuatu. Therefore any recommendations made as a result of this finding are not binding or mandatory on the Government of Vanuatu.

[26] Where there is adverse comment directed to any person with respect to the circumstances of the death then a New Zealand Coroner must take reasonable steps to notify that person or corporation and allow the opportunity to be heard and to provide either personally or through legal representation rebuttal comment in accordance with the rules of natural justice.

[27] I can indicate there was adverse comment directed at a number of interested parties. I acknowledge Mr Syed who responded with rebuttal comment which is referenced in this finding.

58 Adverse comments by coroners

(1) A coroner may, in the course of, or as part of the findings of, an inquiry, comment on the conduct, in relation to the circumstances of the death concerned, of any person.

(2) The coroner must not comment adversely on a dead person without—

(a) indicating an intention to do so; and

(b) adjourning the inquiry for at least 5 working days; and

(c) notifying every member of the person's immediate family who during the adjournment requests the coroner to do so of the proposed comment; and

(d) giving every such member a reasonable opportunity to be heard, either personally or by counsel, in relation to the proposed comment.

(3) The coroner must not comment adversely on a living person, corporation sole, body corporate, or unincorporated body without—

(a) taking all reasonable steps to notify the person, corporation, or body of the proposed comment; and

(b) giving the person, corporation, or body a reasonable opportunity to be heard, either personally or by counsel, in relation to the proposed comment.

(4) Notifications, or opportunities to be heard, required to be given to a body corporate or unincorporated body must be given to an officer or other representative of the body who is, or appears to be, authorised by the body for the purpose.

(5) This section overrides section 57 (purposes of inquiries), but is subject to section 68 (procedure if person charged with offence).

The facts – fated dive

[28] Dr Lailade Osunsade was born 28 June 1979 in the United States of America. She was a qualified Medical Doctor and at the time of her death was a resident of New Zealand working in the New Zealand medical system.

[29] On Saturday 27 April 2013 Dr Osunsade flew from Auckland to Port Vila then on to the island of Espiritu Santo, one of the northern islands and part of the chain of islands making up Vanuatu.

[30] Dr Osunsade had come for the purpose of participating in recreational diving.

[31] Dr Osunsade was a PADI qualified diver and had completed a number of dive courses in various countries across the world, the first being 13 August 2004 in the Seychelles Islands through to a PADI specialist course in Thailand on 27 November 2011[2]. In all, Dr Osunsade had completed 42 dives prior to her fatal dive.[3]

[32] On arrival in Vanuatu, Dr Osunsade had booked into a local hotel on 27 April 2013 and then made enquiries about organising chartered dives.

[33] On Monday 29 April 2013 Dr Osunsade made a booking with a local tourist diving company, Aquamarine, owned by Mr Rehan Syed. She had booked a number of dives for that week up to and including the fatal dive on 2 May 2013.

[34] Dr Osunsade then went through the usual process of completing liability and assumption of risk forms with Mr Syed. She was also required to produce her diving

[2] PADI – Professional Association of Diving Instructors – The PADI system delivers diver education; skills; and safety instructions through courses held in over 6200 dive centres and resorts worldwide.

[3] New Zealand Police National Dive Squad report by Sergeant Bevan Sheffield-Cranstoun, dated 15 January 2015 at paragraphs 8.1, 8.2 and 8.5.

certificate. During this time Dr Osunsade was also measured up for the dive gear required for the dives.[4]

[35] For the next few days Dr Osunsade participated in a number of recreational dives with staff from Aquamarine at the popular dive site being the wreck of the *SS President Coolidge*.

[36] The *SS President Coolidge* was an American luxury liner converted into a troop ship in 1942. In the process of carrying out her duties she was sunk by mines found in the channel of Espiritu Santo. The captain at the time tried to beach the ship onto a coral reef which was unsuccessful and when the ship sank it slid back down into the channel where it still lies[5].

[37] It is a very popular dive site with a number of challenges including interesting places in and around the ship at different depths.

[38] Dr Osunsade's dive computer and log book recorded all her dives starting with a dive on Monday 29 April 2013 to a depth of 33.8 metres.

[39] On the morning of Tuesday 30 April 2013 Dr Osunsade was picked up from her hotel by staff from Aquamarine and taken to the site of the *SS President Coolidge*. Dr Osunsade completed a dive to a depth of 33.1 metres at the front cargo holds on the wreck.

[40] During this dive Dr Osunsade was guided by Mr Toa, an Aquamarine dive guide, and accompanied by another tourist on the dive, Mr Kent, who recorded a short 49 second segment of the dive from his underwater video camera.[6]

[41] The video segment was reviewed by Sergeant Bevan Sheffield-Cranstoun, an experienced member of the New Zealand Police National Dive Squad (PNDS) and report writer who, by co-operation with the Vanuatu Police, and the New Zealand Police, went to Vanuatu in March of 2014 for the purpose of investigating the circumstances leading to Dr Osunsade's death.

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[4] Ibid: Police dive report at paragraphs 4.4 and 4.6. Most of the gear was rented from Aquamarine apart from a few personal items of equipment
[5] Wikipedia encyclopaedia
[6] Ibid: Police dive report at paragraphs 4.13 to 4.14

[42] What was noted by Sergeant Sheffield-Cranstoun from the video by Mr Kent was Dr Osunsade finning in a bicycle motion, almost vertical in the water, which is considered by most diving experts as an inefficient means to fin through the water.

[43] The Police took the view a diver in this position is either inexperienced in the situation and possibility outside their comfort zone, or they were over weighted during the dive and having to work harder.

[44] Police further noted during their review of the video segment, Mr Toa, the diving guide, swimming over to Dr Osunsade where she shows Mr Toa her submersible pressure gauge (SPG) and then the camera is scanned around to another part of the wreck.

[45] Police then reviewed a second part of that video (32 seconds) of the same dive. It was observed Dr Osunsade was seen to be breathing very rapidly as part of the group making their way out of the front cargo hold.

[46] At one of the decompression stops, Dr Osunsade had to be given a spare dive cylinder that was more than likely carried out by Mr Toa and placed earlier for such a scenario where someone in the group has run low or almost out of air.

[47] The significance of that particular dive relates to the fatal dive of 2 May 2013 which will be addressed later in the finding.

[48] For the next few days Dr Osunsade participated in more recreational dives at different depths in and around the *SS President Coolidge* and at a nearby popular diving spot being "Million Dollar Point".

[49] On Wednesday 1 May 2013, Dr Osunsade was picked up at 8.30 am from her hotel and taken to the *SS President Coolidge* wreck for her fourth dive that week. She completed a dive to a depth of 39.7 metres with a bottom time of 21 minutes close to a popular spot known in the wreck as "The Lady", again being guided by Mr Toa from Aquamarine.

[50] "The Lady" is a mosaic tile of a woman and her unicorn that has been relocated from within the wreck to now sit on C deck. "The Lady" can be easily

accessed via an outside sea door referred to as "Euart's Door". "The Lady" is situated at a depth of 42 metres.[7]

[51] The NZ Police evidence suggests Dr Osunsade had real issues with breathing and trying to get to the appropriate depth making her dive on 1 May shorter than expected, which was noted by Aquamarine who then made available to her a one-on-one guided dive for her next chartered dive on Thursday 2 May 2013.

[52] On this day, Thursday 2 May 2013, Dr Osunsade and a group of Australian tourists who also booked for the recreational dive were picked up from their hotels and taken to the dive site of the *SS President Coolidge* wreck.

[53] The Australian group were supplied dive cylinders from Santo Island Dive and Fish (another tourist dive operator) and both Dr Osunsade and Mr Toa (diving guide) had dive cylinders from Aquamarine.

[54] This was a particularly busy day for the dive operators with five groups from Aquamarine in and around the wreck.

[55] As per the best diving practice, Mr Toa went through the pre-dive check with Dr Osunsade before they left the surface at 10.28 am Vanuatu time. They then followed the rope which runs from the decompression stop area to the bow of the wreck.

[56] In Mr Toa's statement to PNDS, both he and Dr Osunsade swam down the starboard side of the wreck, past the shark cage to "Euart's Door". "Euart's Door" provides access to the C deck which is where "The Lady" is located.

[57] Mr Toa and Dr Osunsade then turned on their dive torches prior to entering the wreck. Dr Osunsade had about 200 bar of cylinder contents remaining at this stage. According to Mr Toa's recollection, Dr Osunsade started the dive with between 240 and 250 bar cylinder contents.

[58] Mr Toa then led the way entering through "Euart's Door" into the passage that leads to where "The Lady" is situated. Once inside the wreck and away from the sea door the area is pitch black with no natural light.

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[7] New Zealand Police dive report at paragraphs 4.31 through to 4.33.

[59] Shortly thereafter Dr Osunsade indicated to Mr Toa that something was wrong. The evidence is unclear as to what depth they were at, at the time. Police were unable to tell from Dr Osunsade's dive computer profile where this took place.

[60] According to Mr Toa, they both swam back to the sea door where they had entered the wreck with Mr Toa exiting the wreck first and then waiting for Dr Osunsade to exit.

[61] After Dr Osunsade exited the door she signalled to Mr Toa she wanted to swim back towards the bow.

[62] In Mr Toa's statement to Police, prior to starting to swim back he had showed Dr Osunsade his SPG and Dr Osunsade signalled to him everything was okay, which meant as per their dive briefing she had over 100 bar of cylinder contents.

[63] Mr Toa again confirmed Dr Osunsade signalled she was unwell and he noticed she was breathing more rapidly than earlier in the dive. He then led the way back towards the bow, noting Dr Osunsade to be approximately six to seven metres behind him as they swam along.

[64] When Mr Toa reached the door area known as the "Medical Supplies" situated slightly above and to the left of "Euarts door" he went to check on Dr Osunsade expecting her to be behind him and discovered she was missing.

[65] Mr Toa made statements to both the Vanuatu and PNDS where there were noted inconsistencies in his statements.[8]

[66] Dr Osunsade's dive profile summary strongly indicates she was separated from Mr Toa in the vicinity of "The Lady" despite Mr Toa's account. The profile shows Dr Osunsade entering "Euarts Door" alive and at 52 mins is exited through the same by Messrs Tony and Jeremiah deceased.[9]

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[8] Ibid – see paragraph – 5.16.43 There were inconsistencies in the statements made by Mr Toa to the Vanuatu Police and PNDS on 2 May 2012; 3 May 2012; and March 2014

[9] Ibid – See paragraphs 5.16.46 – 5.16.56 Mr Toa's statements can be challenged from other corroborating evidence particularly Dr Osunsade's dive profile summary see fig.10. The profile directly challenges Mr Toa's recollection of events.

[67] Mr Toa stated that he started searching for Dr Osunsade checking the starboard side. He swam back to the sea door where they had entered the wreck and back to where "The Lady" was located shining his torch into the passageway but was unable to locate Dr Osunsade.

[68] Mr Toa then states he swam back towards the bow, checking around the area where the five inch gun is located near the bow before swimming back to the decompression stop area and surfacing without completing any decompression stops.

[69] Once back on the surface Mr Toa had signalled to Mr Syed who was onshore, trying to gain his attention. Once they were within earshot of each other Mr Toa had asked whether Dr Osunsade had been seen. Mr Syed had indicated she had not been seen so both waited onshore until the remainder of the Aquamarine divers and guides returned to the surface.[10]

[70] Mr Syed had then asked his two guides, Messrs Tony and Jeremiah, to immediately conduct an underwater search for Dr Osunsade whilst their other guests snorkelled on the surface looking for bubbles, possibly from Dr Osunsade.

[71] It was the PNDS estimation both dive guides left the surface at approximately 11.00 am to start the search.

[72] A tourist diving with Aquamarine, Dr Staker, requested Mr Syed to gather all medical equipment he had available, including oxygen tanks for the emerging inevitability of the situation. There was very little emergency equipment and a call had been placed with the local ambulance and to other medical professionals on the island to come and assist.

[73] Mr Tony and Mr Jeremiah retraced Mr Toa's dive back to the sea door leading to "The Lady". Both guides entered the wreck through the sea door with Mr Tony remaining close to the sea door whilst Mr Jeremiah swam down to where "The Lady" is located on C deck. Dr Osunsade could not be located but it was noted that the water was very silty.

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[10] Ibid: New Zealand Police dive report paragraphs 4.106 through to 4.126.

[74] Mr Jeremiah then swam from C deck onto B deck where, within metres of reaching B deck, he located Dr Osunsade unresponsive and not breathing.

[75] It was noted Dr Osunsade was lying on her back, her head was facing the top deck and her feet were towards the keel. Dr Osunsade's mask was in place but her regulator was dislodged from her mouth.

[76] He also noted Dr Osunsade was missing both fins. She had some air in her BCD (buoyancy compensating device) and there was no air leaking from her regulators. Her torch was not on. She had 100 bar of cylinder contents remaining. It was believed the depth was at 41 metres.

[77] During an interview with the PNDS, Mr Jeremiah advised he inflated Dr Osunsade's BCD and was able to move her back to the sea door where both dive guides were able to recover Dr Osunsade back to the decompression stop area. As both dive guides had now completed another deep dive, they both needed time to decompress before safely leaving the water.

[78] Snorkelers on the surface dived down to the dive guides and brought Dr Osunsade to the surface where she was taken onto the beach. According to Dr Osunsade's dive computer she surfaced at 11.30 am.

[79] Those on the beach immediately provided assistance including another tourist diver Dr Staker.

[80] Word had travelled around the island very quickly of Dr Osunsade's demise. Those who were in a position to offer assistance, both medically and in other respects, came to provide support where they could.

[81] A volunteer paramedic at Medical Santo, Mr Ellaby picked up medical equipment and resuscitation gear including a defibrillator and made his way to the emergency by taxi to assist.

[82] Those in attendance worked on Dr Osunsade as intently as they possibly could over 20 minutes with no response. Dr Staker then made the call to stop after discussion with the paramedic; the time of death was 11.50 am. Dr Osunsade was respectfully covered with towels.

[83] In her statement to the New Zealand Police Dr Staker said:

> **"Her clothes were cut to increase exposure and access.**
>
> **There were no signs of life, no respiratory effort, no pulse. There was foam at the nose and lips. We rolled her into the recovery position to clear her mouth and on her back again and CPR was commenced by a diver from our group.**
>
> **I used the available mask to attempt to deliver breaths but was unable to continue due to refluxed gastric contents and seawater.**
>
> **CPR was continued in cycles until the paramedic (volunteer from Queensland) arrived. He had brought resuscitation equipment with him. CPR continued, defibrillator pads were attached and a size 4 laryngeal mask airway was inserted. Able to ventilate with self-inflating bag. Unable to gain IV access. No shockable rhythm located. Pupils fixed and dilated."**

[84] Mr Syed had called Mr Davies from Santo Island Dive and Fish at approximately 11.20 am to come to the scene as there had been a diving death.

[85] Dr Osunsade was removed from the scene by ambulance and taken to the mortuary for examination.

[86] Police attended taking photographs and then seized all the diving equipment used by Dr Osunsade including her belongings.

[87] Dr Osunsade had been using some of her own equipment which included a mask, snorkel and dive watch. The majority of the dive equipment was hired through Aquamarine with the exception of the BCD which had been hired from Santo Island Dive and Fish by Mr Syed for Dr Osunsade's use.[11]

[88] Mr Damian Healy, next of kin (husband) made the decision to repatriate his wife back to New Zealand where she arrived on 12 May 2013.

[89] The issue of jurisdiction was considered by the Duty Coroner and in the end accepted. Dr Osunsade, a New Zealand resident, had died in what was to be an issue of diving safety and of interest to the New Zealand public who holiday and dive in Vanuatu.

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[11] Ibid: New Zealand Police dive report paragraphs 4.127 to 4.166.

[90] As jurisdiction was accepted this then triggered the involvement of the New Zealand Police. Mr Healy, as next of kin, completed the identification process for his wife. In terms of an extinction of life certificate, Dr Natuman, a Medical Doctor in Vanuatu, had completed a Death Certificate for the Vanuatu Government which was accepted in the New Zealand jurisdiction.

Post Mortem and Toxicology Reports

[91] A direction for post mortem was completed by the Duty Coroner on 12 May 2013.

[92] Dr Joanna Glengarry, Forensic Pathologist, carried out the post mortem examination on 13 May 2013.

[93] This was approximately 11 days after death. The post mortem examination had shown moderate decomposition; there were minor blunt force injuries to the hands (bruises and abrasions) and legs (abrasions).

[94] There was no significant natural disease and the toxicological analysis was shown to be negative. It should be noted samples were not taken until day 11 post mortem.

[95] It was Dr Glengarry's view the cause of death was consistent with drowning during a diving episode. The information was limited.[12]

[96] With respect to the ESR report and the toxicological findings, there was no evidence of alcohol, medications or drugs in Dr Osunsade's system.[13]

Diving equipment and the overall diving process

[97] As indicated earlier, New Zealand Police were given authority by the Police Commissioner of Vanuatu to carry out an investigation on behalf of the NZ Coroner and in respect of the circumstances leading to the death of Dr Osunsade.

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[12] Coronial autopsy report, Dr Joanna Glengarry and Dr Paul Morrow, dated 4 July 2013.
[13] ESR report by Dr Helen Poulsen, forensic toxicologist, dated 7 June 2013.

[98] That was also to include inspection of the equipment and the overall diving process in which she was involved during that fatal dive on 2 May 2013.

[99] Sergeant Bevan Sheffield-Cranstoun, a member of the New Zealand Police National Dive Squad (PNDS) was assigned and travelled to Vanuatu in March 2014. His instructions were to carry out a respectful and professional investigation.[14]

[100] The objective of his report was to determine any causative factors present at the time of the diving tragedy and to identify any recommendations that might result in safer diving practices.

[101] The determination of these factors was based on three things:

- Equipment examination by Police and experts.
- Photographs taken of the equipment.
- Job sheets and statement obtained from witnesses.[15]

[102] The report was commissioned as per the New Zealand Police Manual of Practice and Police instructions.

[103] As part of his process he interviewed Aquamarine staff and other dive operators who attended the scene.

[104] The PNDS is a well respected unit of experts in the area of diving both in NZ and internationally. They are a specialist unit of Police Officers with extensive expertise in all facets of diving. They investigate all diving deaths in New Zealand and provide comprehensive reports for various agencies which include expert opinions and recommendations to make the practice of diving safer.

[105] The dive equipment used by Dr Osunsade and seized by the Vanuatu Police included:

(a) Catalina dive cylinder.

(b) Oceanic regulator set with primary and secondary regulators.

(c) Black mesh pocket weight belt.

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[14] Ibid: New Zealand Police dive report at page 153 "Qualifications of Report Writer".
[15] Ibid: New Zealand Police dive report paragraphs 1.1 to 1.2.

(d) Aqualung dive boots.

(e) Black Mako fin (recovered in September 2013).

(f) Black Hollis LED torch.

(g) Mares Vector BCD.

(h) Aqualung dive mask.

(i) Aqualung snorkel.

(j) Suunto D9 dive watch.

(k) Water bottle containing water.

[106] The evidence confirmed that items (a) to (f) belong to Aquamarine. Item (g) belonged to Santo Island Fish and Dive and the remaining items (h) and (i) being the Aqualung dive mask, snorkel, dive watch and water bottle belonged to Dr Osunsade.

[107] When Dr Osunsade was recovered by Mr Jeremiah it was noted that she did not have her fins on. She had been fitted with a size 11 black/grey dive boot and Extra-Large Mako/Aeris fins

[108] In July 2013 Mr Lasa, who worked for Santo Island Dive and Fish at the time, located a similar fin on the B deck of the *SS President Coolidge* wreck lying in silt at a depth of 45 metres. The fin (size Extra-Large) was returned to Aquamarine.

[109] Again, In September 2013 Mr Lasa found another fin (same size Extra-Large) similar to that worn by Dr Osunsade on the B deck close to where the first fin was found. This fin was located at a depth of about 50 metres, again lying in silt.

[110] This fin was retained and made available to Sergeant Sheffield-Cranstoun in March 2014 for examination.

[111] It must be acknowledged whilst it cannot categorically be proved they were the actual fins worn by Dr Osunsade. On the balance of probabilities and in the circumstances, I accept the fins are more than likely hers as they were in the vicinity where Mr Jeremiah found Dr Osunsade.

[112] The PNDS investigation found in brief Dr Osunsade was poorly served by the diving equipment provided to her which collectively contributed to her death. Some items of equipment were in need of immediate service. There was reference to the dive cylinder used by Dr Osunsade which did not meet air purity standards.

[113] It should be noted there is no evidence to indicate where the equipment was stored and in what conditions from the time the Vanuatu police seized it to the point where PNDS commenced their inspection. Whether they were cleaned of residue salt water? Whether the equipment was stored in dry and cool conditions?

[114] The ESR report prepared by Angus Newton[16]confirmed the air quality in the dive cylinder used by Dr Osunsade had failed the NZ standard 2299.1.2007 "Occupational Diving operations Part 1: Standard Operational practice" – referencing Section 3.13 "Breathing Gas Quality". The water content was higher than the recommended standard for compressed breathing air

[115] It was found the interior of the dive cylinder contained foreign material. More importantly, it was found that Dr Osunsade was excessively over weighted and recommended safe dive practices were exceeded.

[116] Dr Osunsade had become separated from her dive guide inside the wreck of the *SS President Coolidge* losing vital pieces of equipment and has drowned.

[117] The depth of the fatal dive was at 42 metres during a one-on-one guided dive with Mr Toa, a dive guide from Aquamarine.

[118] Sergeant Sheffield-Cranstoun was able to examine the equipment used in the fatal dive by Dr Osunsade and provided an extensive report of the technical problems and issues with the individual components of the dive equipment.

[119] The key findings from the PNDS report identified the following.

[16] Ibid – NZ Police Dive Report – refer to ESR Report dated 8 September 2014 including reference to the Analysis of the air purity by BOC Limited. See report pages 1-4

Dive cylinder[17]

[120] Dr Osunsade was diving with a cylinder from Aquamarine. An internal inspection of the dive cylinder revealed free water and a build-up of aluminium oxide powder and introduced abrasive metal (potentially left over from cleaning material).

[121] This was an indication that the dive cylinder valve had not been removed to establish if there was any foreign substance inside the cylinder. There were also signs the valve had been dropped/knocked and possibly overfilled.

[122] The cylinder valve was removed and examined by ESR. The valve and dip tube were in poor condition though functional.

[123] The implication was that the testing regime of this cylinder was not regular. Enquiries with the cylinder manufacturer advised a recommendation of hydrostatic testing be set at every five years. The cylinder manufacturer also advised that visual inspections should be conducted annually.[18]

[124] With respect to Dr Osunsade's dive cylinder the last hydrostatic test was unknown as the testing record could not be verified. It had not been clearly stamped on the dive cylinder if it was examined.

[125] The PNDS inquiry requested service log books for all the rental gear used by Aquamarine. The log books were never produced and further requests were unanswered.

[126] The outcome was an inconsistent approach to regular testing which required close compliance with the manufacturer's recommendations.

[127] It was found that some of the cylinders used by Aquamarine were tested and others may not have had the same robust approach. In respect of the cylinder Dr Osunsade used, there was no evidence of when it had last been tested.

[128] It must be acknowledged the quality of the air within the cylinder and the state of the cylinder did not cause her death in isolation. The Dive cylinder is one of

[17] Ibid: New Zealand Police Diver Report "Dive Cylinder: paragraphs 5.1 - 5.5.26
[18] Ibid: New Zealand Police dive report paragraphs 5.2.10 to 5.2.11.

the key components of diving. Having safe equipment is part of the overall message.

Regulators

[129] Dr Osunsade was diving with regulators from Aquamarine that may not have been serviced for a good period of time.[19]

[130] When the first stage was disassembled by removing the yoke, the centre filter was found to be in extreme dire condition and in need of immediate replacement.

[131] This has most likely come about by either aluminium powder, abrasive material and/or free water entering the first-stage regulator, most likely through the foreign material inside the dive cylinder.[20]

[132] Sergeant Sheffield-Cranstoun carried out a test dive of the regulators used by Dr Osunsade. He found at both six metres and 19 metres the first-stage regulator provided satisfactory results.

[133] The role of the first-stage regulator is to attach to the cylinder valve and alter the high pressure on the cylinder to a lower working pressure known as the "intermediate pressure" for the second-stage regulator. In turn, the first-stage regulator delivers air to the second-stage regulator and to the diver's mouth, on demand and as the diver inhales.

[134] The test dive revealed that both the primary and alternate regulators did not perform as well as expected and were noted to require the diver to breathe slightly harder than expected.

[135] The PNDS carried out a subsequent flow test on the first-stage regulator and both the primary first-stage regulator and the alternate second-stage regulator provided flow results of 24 standard cubic feet per minute.

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[19] Industry recommendations are at least yearly servicing with OEM parts and qualified technicians. Memo report with the key findings from Sergeant Sheffield-Cranstoun, 12 December 2014.

[20] Ibid: New Zealand Police dive report paragraph 5.8.14 referencing photographs 25 and 31 to 34.

[136] However, in a subsequent test repeat when the primary first-stage regulator attached to the flow meter and the alternate second-stage regulator was purged, the flow rate started at 16.1 standard cubic feet per minute then dropped to zero.

[137] This was considered unacceptable with the inference of a lack of servicing/debris build-up inside the unit.

[138] Therefore, the scenario of a diver under stress, such as Dr Osunsade, being overweighted with incorrect fitting dive boots and fins, as well as being separated from the dive guide inside a wreck at a depth, would cause a diver to breathe fast enough to effectively have a scenario of inadequate supply of air for the high work effort.

[139] The regulator system had been severely compromised for lack of regular maintenance.

[140] It was the view of the PNDS the first-stage regulator was a contributing factor to Dr Osunsade's death by affecting and/or reducing her air supply. It was in a poor state of repair from a lack of servicing and debris build up.[21]

[141] Mr Syed, owner of Aquamarine Santo provided rebuttal comment in relation to the condition of the regulator at the time of the PNDS investigation[22]. This regulator was one of several purchased along with a general restock of diving gear in December 2012 from an Australian diving company and delivered to Espiritu Santo in March 2013. It had only been in operation for 2 months before the tragedy.

[142] The other factor Mr Syed points out with respect to condition of the regulator at the time it was inspected by PNDS was the gear in question had been in some sort of storage for near on 10 months by the Vanuatu police.

[143] There is no indication as to what conditions the regulator and the other gear were stored in or even whether the residue of the salt water had been cleaned. Mr Syed confirmed the warm humid conditions of Santo, Vanuatu would have a

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[21] Ibid – New Zealand Police dive report para 5.8.9 – 5.8.17 and see photos 27-36

[22] Mr Syed – response to Adverse comment by email on 11 December 2015 about the state of the regulator – he provided a copy of an invoice confirming the purchase of regulators and other diving equipment from Oceanic Diving Australia Pty. Ltd on 7 December 2012 with instructions to deliver to Aqua Marine, Vanuatu.

negative impact on the condition of the gear if not stored in clean, cool and dry conditions.

[144] When the regulator doesn't supply air efficiently or when the air supply is compromised this can seriously lead to a diver becoming hypoxic. In general, a diver would possibly experience a number of challenges which include:

- light-headedness
- fatigue
- numbness
- nausea
- confusion
- disorientation
- hallucinations
- severe headache
- reduced level of consciousness.

[145] As a general comment, if these medical conditions are encountered by a diver then the risk could be death.[23]

[146] Finally on this point, it should be noted that in the week preceding the fatal dive, Dr Osunsade had more than likely experienced the same problem with earlier dives based on the statements of other tourist divers. Dr Osunsade was observed to be breathing rapidly on a number of dives due to the issue with the regulator and the issue of being over weighted.

Buoyancy and appropriate weight

[147] Weight is worn by a diver to compensate for the positive buoyancy created by the equipment used and a diver's own body composition.

[148] The general rule in maintaining appropriate buoyancy is that the diver should be neutrally buoyant on the surface. Neutral buoyancy means that the diver can

[23] Ibid: New Zealand Police dive report paragraphs 5.8.23 to 5.8.25.

hang comfortably on the surface with the waterline at eye level without the assistance of using fins or their BCD.[24]

[149] The onus is on a diver to maintain and adjust their buoyancy either by adding or removing weight as required.

[150] Excessive weight would lead to a diver having to rely more on their physical effort to reach and remain on the surface due to negative buoyancy. This inevitably will lead to diver exhaustion and stress because of the physical exertion required to move on and around the surface.

[151] Alternatively, insufficient weight requires a diver to again rely on physical exertion to stay submerged which too may cause a diver to become exhausted and stressed.

[152] Insufficient weight can also lead to a fast ascent and risk of diving illnesses or injury. This was not the case for Dr Osunsade as she was wearing a rash suit (no buoyancy).

[153] In reference to those video segments in the early part of this finding, there were shots of Dr Osunsade in a head up and feet down position indicating either overweighting or lack of buoyancy skill.

[154] The PNDS investigation reviewed Dr Osunsade's dive log book which confirmed on various dives in different parts of the world she wore a rash shirt and on other occasions a wetsuit (ie, Bali). In Thailand she wore a rash shirt. The report considered this to be inexperience as the issue of buoyancy is critical to an efficient and safe dive.

[155] On the day of the fatal dive, Dr Osunsade was using a weight belt with 9.325 kilograms and together with additional weight of 1.14 kilograms attached to the cylinders and strapped on the BCD she was wearing just over 10.465 kilograms of weight during that dive.

[156] In the opinion of the PNDS report, Dr Osunsade was very negatively buoyant with the combined weight of 10.5 kilograms and no wetsuit providing buoyancy.

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[24] Ibid: New Zealand Police dive report paragraphs 5.18.2 and 5.18.4.

[157] The PNDS report is at a loss to explain why Dr Osunsade was carrying so much weight as this had clearly compromised her ability to be efficient and safe in the water.

[158] Nevertheless, the responsibility also falls on the diving tourist operator Aquamarine and their dive guides to ensure that each of their diving clients is weighted correctly prior to leaving the surface for the first dive.

[159] Dr Osunsade's log book confirmed that when diving with Aquamarine she had several dives with 10 kilograms of weight and then dropped to 8.5 kilograms for one dive before moving back to a 10 kilogram weight.

[160] Dr Osunsade was found with her weight belt still attached. All weight systems have a buckle or similar quick-release system to allow abandoning of the weight in emergencies to allow a diver to become positively buoyant.

[161] It was the PNDS view Dr Osunsade's would have gained no effect from ditching her weight belt inside the wreck as she still would have been trapped within the wreck.

[162] In testing, the weight belt was found to be working correctly with an appropriate quick-release system.

[163] Dr Osunsade had a single weight attached to her BCD cylinder strap. When the PNDS interviewed the dive guides they were unable to explain why the weight was there on the fatal dive.

[164] Mr Toa explained when interviewed that Dr Osunsade herself put the single weight on her BCD cylinder strap. The effect of such a practice would make the diver upright in the water.

[165] The PNDS conducted a buoyancy test using a person (male in this instance) with similar proportions to Dr Osunsade (height and weight) and carrying the same weight; with regulators; weight belt; and dive cylinder. The simulated test proved Dr Osunsade was overweighted.

[166] The PNDS result showed it took only a 1.14 kilogram weight for the test subject to be neutrally buoyant and to be able to leave the surface wearing dive gear.

[167] PNDS noted comments made by the subject of the test in that Dr Osunsade was using in excess of 9 kilograms of extra weight which would explain why she was swimming in a near vertical motion on some dives as shown in the videos recorded by Mr Kent.[25]

[168] This would also explain reports of Dr Osunsade's rapid breathing rate as she had to work harder in the water to maintain neutral buoyancy. Inevitably, this led to fatigue, excess consumption of air supply and combined with the other factors of being at a depth, alone in a wreck in the dark, losing other diving equipment like her fins with a poor supply of air from the regulator, this would have led to panic.

[169] In the view of the PNDS this was a clear contributing factor in the death of Dr Osunsade. I concur on that point.

[170] This was considered a basic diver error indicating diver inexperience and lack of oversight by Aquamarine.

[171] Adding to the issue of overweight is the fact Dr Osunsade was not wearing a wetsuit which provides warmth, protection, and more importantly added buoyancy which is calculated in the formulas when determining appropriate buoyancy.

[172] During the fatal dive, Dr Osunsade was not wearing a wetsuit but instead a thin rash shirt. This would have been understandable given the warm temperature of the water in the tropics and the fact that she had dived in other similar tropical conditions (ie, Bali and Thailand).

[25] Ibid: New Zealand Police dive report paragraph 4.14.

Diving with ill fitted equipment

[173] During the course of the inquiry it was found Dr Osunsade was wearing dive booties and fins which were too big for her, thus compromising her ability to perform efficiently and safely in the diving conditions.

[174] Enquiries with Mr Healy confirmed his wife wore UK size 8 shoes, therefore she should have been wearing either a size 7 or 8 dive boot.

[175] Tests conducted by PNDS using a female of a similar shoe size as Dr Osunsade show that she was given a size 11 Aqualung dive boot; several sizes too big with approximately 25 millimetres of space remaining in the front of the dive boot.[26]

[176] This raises serious concerns over the ability of Aquamarine to provide Dr Osunsade the appropriate equipment for the dives and the fact she was ill-fitted at that time.

[177] PNDS also highlight Dr Osunsade's inexperience and using ill-fitting equipment (dive boots and fins). She was within her rights not to accept the ill-fitting equipment from Aquamarine. Possibly a more experienced diver may have refused.

[178] The effect of the ill-fitting equipment worn by Dr Osunsade would have forced her to work harder by kicking harder to get any decent movement. This would explain or contribute to why Dr Osunsade lost her fins during the fatal dive, more than likely contributing to her death. Appropriate fitting fins worn by a diver provides propulsion through the water and maximises the efficient use of a divers energy.

[179] On the fatal dive, Dr Osunsade was located by the dive guide, Mr Jeremiah, without fins on. She had been issued Extra Large black fins of the Mako make and model, being Aeris.

[180] This was the same make and model and size recovered by Mr Lasa as recorded earlier in the finding, in the proximity of where Dr Osunsade was found by Mr Jeremiah.

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[26] Ibid: New Zealand Police dive report paragraph 5.20.3.

[181] Clearly Dr Osunsade should have been wearing smaller sized dive fins consistent with proper fitting dive boots appropriate to the size of her feet.

[182] The fin provided by Mr Lasa to Sergeant Sheffield-Cranstoun in September 2013 was found to be in reasonable condition with the buckle working correctly. The earlier fin found by Mr Lasa in July 2013 was returned directly to Aquamarine.

[183] On the balance of probabilities, Dr Osunsade was most likely under stress and anxious during the fatal drive. She had ill fitting equipment, namely extra large boots and fins which resulted in them coming off her feet.

[184] Clearly she had been overweighted and had to work harder in the water to maintain appropriate buoyancy. The ill-fitting boots and fins would have added to the fatigue, alarm and stress she would have been experiencing.

[185] All this in addition to a poorly functioning regulator which compromised her air flow. The combination of all these factors and the fact that she had been left by the dive guide, has led to her death.

Diving history

[186] PNDS enquiries with respect to Dr Osunsade's diving experience found whilst she had completed a good number of dive courses in terms of learning skills for open water, this did not necessarily equate to being an experienced diver.

[187] PNDS takes the view experience comes from diving in varying dive sites over periods of time and in different conditions and learning from each dive.

[188] It was acknowledged Dr Osunsade had completed 42 dives prior to the fatal dive, however over half of her dives had been on courses over a nine year period[27].

[189] It was the view of PNDS Dr Osunsade was an inexperienced diver but a capable diver equipped with sufficient skills to have completed recreational diving given the training she had received to date.

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[27] Ibid – New Zealand Police dive report paragraph 8.2 -8.5

[190] In relation to this fact, Aquamarine was considered to have failed to detect any early warning signs of Dr Osunsade's diving ability being compromised to complete deep and technical dives in and around the *SS President Coolidge* wreck.

[191] There should have been early detection of issues which include buoyancy control due to overweighting; rapid breathing rates in relation to out of air scenarios; the overall impact of being over weighted and having ill-fitting dive gear.

[192] It should have been clearly obvious to Aquamarine, Dr Osunsade's lack of dive experience in relation to the dives in and around the wreck.

[193] There should have been an obvious warning to the Aquamarine operators in the feedback from other divers, when they complained about a dive being cut short due to Dr Osunsade running low on air.

[194] For example, on Tuesday 30 April 2013 during the morning dive to the cargo holds 1 and 2, Dr Osunsade had run low and almost out of air on the decompression stop and had to be given another dive cylinder to breathe from so she could complete the mandatory decompression stop. That in itself was a warning sign.

[195] A further warning sign to Aquamarine guides would have been obvious as she struggled with the ill-fitting dive gear and being over weighted. Again, Dr Osunsade's rapid breathing cycles and finning techniques/actions would have been another warning sign.

[196] Despite Dr Osunsade's ability to dive, there is an imminent responsibility on the tourist diving company, Aquamarine, to ensure their clients are properly fitted and safe for the purpose of the dives.

[197] To a certain extent the one-on-one fatal dive provided no assurance of safety to Dr Osunsade.

Summary of PNDS dive report[28]

[198] There were a number of varying aspects about the operation of Aquamarine. It is not the brief of this inquiry to make comment on the business practices of Aquamarine, nevertheless their dive processes in terms of safety and their equipment were found to be short of acceptable and safe diving practices held in New Zealand, which is considered the same standard internationally.

[199] The Police report concludes that some of dive equipment used by Dr Osunsade directly contributed to her death in the context of diving at depths in and around the wreck of the *SS President Coolidge*.

[200] There were noted faults in the dive cylinder which was in poor repair. The combination of lack of regular servicing of the dive cylinders and water ingress and causing salt water to build up, debris and aluminium oxide with salt water to block or affect the Sinter filters were obvious and added to the overall view.

[201] It is imperative that dive cylinders be maintained in accordance with manufacturer's specifications. Any cleaning material must be removed after cleaning.

[202] The regulator used by Dr Osunsade was in need of servicing. The regulator compromised Dr Osunsade's safety by not providing regular and safe outflow of air.

[203] The BCD borrowed from Santo Island Fish and Dive was in need of servicing.

[204] The other dive equipment provided by Aquamarine, which included dive booties and fins were far too big for her. This was a contributing factor to Dr Osunsade's death.

[205] Of more significance, Dr Osunsade was overweighted by at least 9 kilograms and was not wearing a wetsuit during these deep and technical dives. This was a significant factor.

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[28] Ibid –New Zealand Police dive report – para 13.1 – 14.18

[206] With respect to Dr Osunsade's diving experience, for all intents and purposes despite her extensive training and PADI courses she attended over nine years, she was considered by the PNDS team as an inexperienced diver in relation to the Vanuatu excursion.

[207] On a number of occasions in previous dives in the week preceding her death she was observed to be breathing rapidly which resulted from a combination of factors including being over weighted, wearing ill-fitting equipment. On one other occasion having to be supplied with a spare air cylinder because of issues of lack of air.

[208] Similarly, Dr Osunsade showed clear warning signs that she was not comfortable in the water, in particular around the technical deep dives that went unnoticed by the dive guides employed to watch over her and others in the group.

[209] There was clear evidence that Aquamarine had not taken into consideration Dr Osunsade's diving abilities and had overlooked many of the warning signs and indicators that she was not functioning as she should have been during the dive.

[210] There was no indication of contingency plans for when a diver became separated from a dive guide. This was evident when Mr Toa lost sight of Dr Osunsade and was unable to locate her when returning to the surface. This raises serious issues and concerns about the abilities of the dive guide and the planning required to deal with emergency situations as was the case with Dr Osunsade.

[211] The PNDS report had concerns about the "surface recall system" which was non-evident during the emergency event for Dr Osunsade.

[212] In all, there was a general lack of effective processes to deal with emergency situations like this. There was no evidence of an efficient way of looking for Dr Osunsade when she had become separated from her dive guide and was found to be missing.

[213] The Report considered dives in and around the *SS President Coolidge* as technical dives where there is a requirement upon the diver to understand depth limits; timings; and decompression stops at various depths to keep the diver safe particularly when surfacing.

[214] Therefore, on the morning of the fatal dive, Thursday 2 May 2013, Dr Osunsade's dive computer showed she descended to a maximum depth of 42 metres with several ascents and descents before her dive computer recorded no vertical movement after 16 minutes at a depth of 41 metres.

[215] PNDS determined from the data obtained from this dive and through correspondence with other divers who had recently dived the wreck, Dr Osunsade's dive profile showed she started swimming down the rope three minutes into the dive from the decompression stop area to the bow of the wreck and then ascending slightly following the curvature of the bow up towards the forward gun area.

[216] Her dive profile then has a slight change where at seven minutes and at a depth of 27 metres, Dr Osunsade entered "Euart's Door" thus starting the penetration dive towards "The Lady".

[217] There was an ascent and descent between nine and twelve minutes, believed to be Dr Osunsade moving through into the first class dining room or the lobby prior to moving into B deck.

[218] It then remains unclear as to what actually happened from being separated from Mr Toa; to the point she was then recognised as missing; to her being discovered.

[219] Dr Osunsade was located by Mr Jeremiah on the B deck only a short distance from the stairwell, close to the bulkhead near "The Lady". This was her final resting place where she was located 50 minutes after the start of her dive.

[220] Her dive profile summary confirms she passed through "Euarts Door" at 52 minutes when she was being brought to the surface. A change in the ascent file is noted at 27 metres.[29]

[221] The question remains how she became separated from Mr Toa. He was interviewed by Sergeant Bevan Sheffield-Cranstoun and members of the Vanuatu Police on several occasions, each with slightly different inconsistencies. Mr Toa's

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[29] Ibid – New Zealand Police dive report see Figure 10: "Fatal Dive computer Summary" circled in red - page 100 and paragraphs 5.16.55 (bullet points 3,4,5)

version of the event is inconsistent with the technical recording of Dr Osunsade's dive computer which I prefer.

[222] The principal issue is that Dr Osunsade should not have been lost/misplaced during the fateful dive. Dr Osunsade continued to try her best in the circumstances to enjoy the dive, not realising her safety had been compromised with the inferior dive equipment in the context of her dive programme.

[223] It must be acknowledged that those in attendance, including the dive guides, staff of Aquamarine and other tourist divers did all they could to assist in locating her and provide her the necessities of life. Unfortunately it was too late in the circumstances, she had already drowned.

[224] In my view, the death was unnecessary and avoidable.

Formal finding

[225] On the balance of probabilities and from the extensive evidence provided including the PNDS report compiled by Sergeant Bevan Sheffield-Cranstoun I am satisfied Dr Lailade Osunsade, 33 years of age at the time of her death, has drowned whilst participating in a recreational dive on the marine wreckage *SS President Coolidge,* a popular tourist diving site located in the channel off the island of Espiritu Santo, Vanuatu on Thursday 2 May 2013.

[226] The circumstances of Dr Osunsade's death have been outlined in this finding. I make particular reference to the critical evidence gathered by Sergeant Bevan Sheffield-Cranstoun, a member of the New Zealand National Police Dive Squad who, with permission from the Police Commissioner of Vanuatu, has carried out an extensive and thoroughly professional and independent examination of the equipment and inquiry into diving practices relating to Dr Osunsade's death. This Police report will accompany the finding.

[227] I make particular note that the post mortem examination was carried out in New Zealand by a Forensic Pathology team on 13 May 2013, approximately 11 days after her death when Dr Osunsade was repatriated back to New Zealand.

[228] This finding should be read in conjunction with the Police report which is far more extensive.

[229] There are recommendations from this preventable tragedy. Whilst they are offered as part of the New Zealand Coronial process issued pursuant to s 57 Coroners Act 2006, they are by no means binding on the authorities within Vanuatu.

[230] They merely serve as recommendations for safe practice in the tourist diving industry. They are recommendations based on best practice in New Zealand, which are consistent with international standards.

[231] The Court is mindful of the impact this finding may have on the families of Dr Osunsade and those who have worked very hard in the diving tourist industry within Vanuatu.

[232] I acknowledge diving as a recreational sport has a number of risks that can be managed and mitigated through proper and safe practices. In my view, the death of Dr Osunsade was totally preventable.

Recommendations

[233] The New Zealand Police dive report prepared by Sergeant Sheffield-Cranstoun has made a number of recommendations.[30]

[234] On a global perspective the recommendations made in that report are based on best practices and international standards which New Zealand upholds. However, for the purpose of this in-chambers hearing the recommendations are endorsed.

[235] I extend an invitation to the regulatory authorities in Vanuatu to consider the recommendations which would greatly enhance their diving tourist industry.

[236] The recreational diving activities in Vanuatu are world famous and reported to be some of the best diving in the world. These recommendations can only but strengthen a thriving industry.

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[30] Ibid: New Zealand Police dive report paragraphs15 and 16, both refer to general recommendations and recommendations to the dive industry.

[237] In general, there is a personal recommendation to all divers to be fully confident and competent in whatever dive equipment those use when diving. To ensure they have the correct sized equipment and they have good quality air in their cylinders.

[238] Lastly, that if they are not comfortable with either the equipment or the dive plan, then they should cancel the dive until faulty equipment is replaced and/or proper fitting equipment is available and they are comfortable with the dive plan.

[239] There are many technical aspects with deep dives, in particular when diving large wrecks like the *SS President Coolidge*:

- All diving should be conducted with well maintained dive equipment, including in-date dive cylinders
- Divers need to be fully conversant on how to operate their equipment, their dive computers and know what the warning signals relate to.
- Divers need to conduct pre-dive equipment checks such as checking the equipment for leaks and must check their air quality.
- If a fault is found in a piece of dive equipment the dive should be cancelled until the fault is remedied or the faulty equipment replaced.
- Divers need to plan their dive to ensure they arrive on the surface at 50 bar.
- Divers need to monitor air supply during the dive.
- Divers need to wear a knife whenever they dive.
- Divers when penetrating wrecks should carry two torches.
- Divers need to ensure they conduct pre- and post-dive buoyancy checks.
- Divers should follow the maximum depth and bottom time stated and if they breach these times they should advise the tour operator.
- Divers should remain in pairs or in a group and have a plan if they become separated.
- Dive guides should remain with their customers, side-by-side and not become separated at any time.

- Divers who had not participated in deep dives or completed dives in excess of 30 metres should complete work-up dives to lead into the deeper technical dives.
- Divers should have sufficient surface intervals and should challenge operators who recommend short surface intervals.
- Divers need to conduct online research into dive companies they intend to dive with.
- Divers who intend diving on the *SS President Coolidge* should at the very least undertake a deep diving specialty course prior.
- Dive companies should have adequate onsite emergency equipment and diver recall systems
- Divers who witness unacceptable practices, either within New Zealand or overseas, should report these issues and all dive practices which are deemed not to be safe.
- If the company they dive with is affiliated to a parent company of either PADI or SSI, then the complaint should be directed to them. In New Zealand, to the Ministry of Business Innovation and Employment. Or failing that, a Government agency in that respective country.

Coroner H B Shortland

APPENDIX 1

1. Copy of Government of Vanuatu Death Certificate, completed by Dr Walesi Natuman, dated 2nd May 2013.
2. Copy of 'Certificate of Live Birth', dated 11th August 2008.
3. Copy of United States of America passport - Lailade Osunsade.
4. Memorandum 'Vanuatu Diver Fatality – Final Report' from Senior Sergeant Bruce Adams, PNDS, dated 23rd January 2015.
5. Report prepared by Sgt Bevan Sheffield-Cranstoun, Police National Dive Squad, dated 23rd January 2015.
6. Police National Dive Squad booklet, prepared by Bevan Sheffield-Cranstoun, dated 15th January 2015.
7. Copy of Statement of Andrea Mattiazzi, undated.
8. Copy of Statement of Jessica Staker, dated 2nd May 2013.
9. Copy of Statement of Craig Roberts, dated 2nd May 2013.
10. Copy of Statement of Zara Carson, dated 2nd May 2013.
11. Copy of Statement of Roger Cransbury, dated 2nd May 2013.
12. Copy of Statement of John Gransbury, dated 2nd May 2013.
13. Copy of Statement of Simon Toa, dated 2nd May 2013; unsigned.
14. Copy of Statement of David Tony, dated 2nd May 2013; unsigned.
15. Copy of Statement of Tula Jeremiah, dated 2nd May 2013; unsigned.
16. Copy of Statement of David Ellaby, dated 3rd May 2013.
17. Copy of Statement of Rayman Leung, dated 3rd May 2013.
18. Copy of Statement of Simon Toa, dated 3rd May 2013; and attached typed translated statement
19. Copy of Statement of Malcolm Davies, dated 8th June 2013.
20. Copy of Statement of Justin Auld, undated.
21. Copy of Accident Report Form, dated 2nd March 2013 (should be 2nd May 2013).
22. Copy of Property Record Sheet, Vanuatu Police, Exhibit number 27/2013.
23. Copy of Property Record Sheet, Vanuatu Police, Exhibit number 28/2013.
24. Copy of Dr Sala, Northern Provincial Hospital Report, dated 2nd May 2013.
25. Copy of Flash Report, prepared by PC. Peter Solwie, dated 2nd May 2013.
26. Copy of Criminal Investigation Department report, prepared by Inspector Samson Sam, dated 4th May 2013.
27. Copy of Police report (258), prepared by Constable Dickson, dated 27th November 2013.

28. Copy of Photographs (Scene photos).
29. Copy of Photographs (Items exhibited).
30. Forensic Imaging Services photographs, Job Number 14WN34681, dated 16th April 2014.
31. Forensic Imaging Services photographs, Job Number 14WN35886, dated 15th August 2014.
32. Forensic Imaging Services photographs, Job Number 14WN36049, dated 22nd August 2014.
33. Copy of Coronial Autopsy Report, prepared by Dr Joanna Glengarry, Forensic Pathology Fellow and Dr Paul Morrow, Forensic Pathologist, dated 4th July 2013.
34. Copy of ESR report, prepared by Helen Poulsen, Forensic Toxicologist, dated 7th June 2013.
35. Statement (electronic) of Sergeant Sheffield-Cranstoun, dated 2nd November 2015.
36. Statement of Constable Dickson, dated 8th September 2014.
37. Copy of Statement of Dave John Cross, dated 3rd March 2014.
38. Copy of Statement of Allan Power, dated 3rd March 2014.
39. Copy of Statement of Noelline Stephen, dated 3rd March 2014.
40. Copy of Statement of Alfred Lasa, dated 3rd March 2014; and attached sketch.
41. Copy of Statement of Peter Solwie, dated 4th March 2014.
42. Copy of Statement of Malcolm Davies, dated 4th March 3014.
43. Copy of Statement of Kali Chamberlin, dated 5th March 2014; and attached invoices (2).
44. Copy of Statement of Michael Batcock, dated 5th March 2014.
45. Copy of Statement of Rehan Syed, dated 6 March 2014 (signed version and unsigned version with corrections).
46. Copy of Statement of Simon Toa, dated 7th March 2014.
47. Copy of Statement of David Tony, dated 7th March 2014; and attached sketch.
48. Copy of Statement of Tula Jeremiah, dated 7th March.
49. Copy of Statement of Ian Vuro, dated 7th March 2014; and attached invoice.
50. Copy of Statement of Simon Jackson, dated 10th September 2014.
51. Copy of Aquamarine Decompression stop schedule.
52. Copy of Santo Island Dive Decompression stop schedule.
53. Copy of SS President Coolidge Deck Plan and Hull Plan Showing Dive Entry Points.
54. Copy of Police exhibit sheets (7).

55. Copy of Police jobsheet, Constable Filiata, dated 20th February 2014.
56. Copy of Police jobsheet, Constable Harlow, dated 25th March 2014.
57. Copy of Police jobsheet, Constable Filiata, dated 23rd April 2014.
58. Copy of Police jobsheet, Constable Ferguson, dated 7th May 2014.
59. Copy of Police jobsheet, Constable Clayton-Greene, dated 19th August 2014.

60. Copy of Dive profiles from deceased's D9 Suunto Dive Watch.
61. NZ Police National Dive Squad Questionnaire, Craig Alan Roberts.
62. NZ Police National Dive Squad Questionnaire, Zara La Rocca (nee Carson).
63. NZ Police National Dive Squad Questionnaire, John James Gransbury.
64. NZ Police National Dive Squad Questionnaire, Roger James Gransbury.
65. NZ Police National Dive Squad Questionnaire, Maurizio La Rocca.
66. NZ Police National Dive Squad Questionnaire, Jessica Joan Staker.
67. NZ Police National Dive Squad Questionnaire, Michael O'Sullivan.
68. NZ Police National Dive Squad Questionnaire, Andrea Catherine Mattiazzi.
69. Copy of Emails from Damien Healy.
70. Photocopy of deceased's PADI certification cards.
71. Photocopy of deceased's Diver's Log and training record book.
72. Online article; www.michaelmcfadyenscuba.info/viewpage.php?page_id=893
73. Copy of Deck Plans – provided by Aquamarine.
74. Copy of Deck Plans – provided by Michael McFayden (hand drawn).
75. Copy of Regulator Test Report, Air Technology Limited, dated 12th May 2014.
76. Copy of Formal Written Statement of Angus William Napier Newton, ESR, dated 10th November 2014; under covering letter dated 10th November 2014.
77. Copy of Formal Written Statement of Angus William Napier Newton, ESR, dated 8th September 2014.
78. Copy of Formal Written Statement of Angus William Napier Newton, ESR, dated 17th June 2014; under covering letter dated 17th June 2014.
79. Copy of Laboratory Report, BOC, dated 16th May 2014.
80. Copy of ESR report, prepared by Helen Poulsen, Forensic Toxicologist, dated 4th June 2014.
81. Copy of Final Report for ESR, prepared by Marco Brenna, dated 3rd November 2014.
82. Copy of email correspondence from Mr Rehan Syed dated 11 December 2015 and copy of invoice from Ocean Diving Australia Pty. Ltd to Aqua Marine Vanuatu PO Box 395 Santo Vanuatu 7 December 2012