Workplace Health & Safety
INVESTIGATION REPORT

Reference

Region:	Townsville	*Event No:*	12428
Receiving officer:		Leon Thomas	

Reporting Information (work injury, serious bodily injury, work caused illness, dangerous event)

Notification to Workplace Health and Safety	☒ Yes ☐ No Date 22/10/2003 Time 1:00 PM
Was injury/illness fatal?	☒ Yes ☐ No
Notifying Person::	Paul Campbell
Relationship to w/place (employee, neighbour, union, etc)	Townsville Water Police Phone No 47607812
Media Response	☒ Yes ☐ No Paper, TV
Emergency Services	☐ Yes ☒ No [Name of Service(s)]

Injured Person

Name:	Cristina Mae Thomas (Tina)		
Address:	306 Oak Leaf Circle, Hoover, Allabamah 35244		
Sex ☐ Male ☒ Female	D.O.B. 13/02/77		
Basis of employment:	NA	*Type of employment*	Member of public

Time of Incident

Day: Wednesday	*Date: 22/10/2003*	*Time:11:00 AM*

Employer

Legal Name:	Mike Ball Dive Expeditions Pty Ltd
Address:	
Trading Name:	

Workplace where incident occurred

Name:	Vessel "Spoilsport"
Address:	
Incident location:	Yongalla wreck.

Hospital Details

Hospital Admitted:	NA		
Date Admitted:		*Date Discharged:*	
Nature of Injury:			

Incident Description

The dive boat "Spoilsport" owned and operated by Mike Ball Dive Expeditions Pty Ltd, departed Townsville on Tuesday night 21/10/2003 and preceded to the Yongala wreck located approximately 60 miles South East of Townsville. Inductions and briefings were conducted that night.

Wednesday 22/10/2003, further inductions were conducted specifically relating to the Yongala dive site. Cristina Mae Thomas and David Gabriel Watson (husband and wife) were buddied up together for this dive. WATSON was an experienced diver having Open water, Advanced diver, Rescue Diver and Nitrox enriched dive qualifications. THOMAS was relatively inexperienced having an Open Water qualification but with only about 3-4 additional dives meaning she has only had approximately 10-11 dives in total.

Both THOMAS and WATSON have entered the water to commence the dive however there was some problem with WATSONS dive computer which caused them to return to the vessel. While WATSON was fixing the fault with the dive computer THOMAS was adding additional weights.

They have re-entered the water and started their dive. Approximately 8-10 minutes into the dive THOMAS has experienced some difficulties while under the water. WATSON has attempted to help THOMAS to the surface but was unable to, then letting go and surfacing to signal for help.

THOMAS has sunk to the bottom where the trip director 'Wade' has gone down to rescue her, taking her to the surface. They have surfaced close to another vessel 'Jasper'. First aid was provided to THOMAS while on this vessel. Two doctors provided the first aid. THOMAS was pronounced dead and the body returned to the vessel Spoilsport to return to Townsville.

THOMAS provided all her own dive equipment except for the tank.

Status of Investigation

22/10/2003 notification of incident
22/10/2003 meet vessel Spoilsport on return to Townsville. Assisted police with taking of statements.

Witnesses

Names	Addresses
TBA	

Notices issued in relation to Incident

Type:		*Type:*		*Type:*	
No:		*No:*		*No:*	

Notices issued in relation to other Hazards

Type:		*Type:*		*Type:*	
No:		*No:*		*No:*	

Inspector's Name	Leon Thomas	*Inspector Number*	218
Signature		*Date*	29/10/2003

This section was created for the purpose of consideration by the Workplace Health and Safety Legal Unit and is subject to legal professional privilege

Recommendation

Further investigation ☒ **Investigation** complete ☐

Statement of Reasons: Further Investigation required. Information from QPS required. Case currently being reviewed by Principal Dive Inspector COXON.

Regional Investigations Manager		*Inspector Number*	
Signature		*Date*	
District Manager			
Signature		*Date*	
Director, Legal & Prosecutions			
Signature		*Date*	

Workplace Health & Safety
REGIONAL INVESTIGATIONS MANAGER REVIEW REPORT

INVESTIGATION ID: 10733

EVENT ID: 12428

NAME: Death of Christina Mae WATSON- Mike Ball Dive Expeditions Pty Ltd

SUMMARY OF FACTS:

(references are to exhibits, statements and ROI)

1. Mike Ball Dive Expeditions Pty Ltd (MBDE) operated the vessel Spoilsport to conduct recreational diving for certificated recreational divers and others. Trips went to the Great Barrier Reef, the Coral Sea and to the wreck of the SS Yongala.

2. The SS Yongala was a large steam ship that sank in a cyclone in 1911 with the loss of 124 lives. Since the wreck's discovery she has become a famous and popular recreational dive site, forming the main focus of diving activity off Townsville.

3. The Yongala wreck site is located in the shipping channel off Cape Bowling Green (6.4.3). The vessel is 109m in length, with the bow pointing northerly (347 degrees). It lies in the seabed listing approx 60-70 degrees to starboard and is largely intact. The depth to the seabed is approximately 30m with the wreck's highest point being at a depth of 16m. (6.4.18)

4. The wreck is surrounded by a number of moorings. These include a lighted beacon, vessel moorings and descent lines connected directly to the bow and stern of the wreck (6.4.4).

5. On 22.10.03, tidal predictions for Townsville were for high water at 0643 of 2.67m followed by a high water at low water at 1252 of 0.73m; the tidal variation being 1.94m (6.4.5). This variation is approximately mid way between neap and spring ranges predicted for that month. However the site is well known for its strong tidal currents and rough surface conditions (6.4.19)

6. Employees of MBDE working on board the Spoilsport included the master, a Gavin Stuart DOCKING; the trip director, a Wade SINGLETON; the vessel's engineer, a Craig HASLET; another engineer, Bruce EDDINGS; first mate David LEMSING; dive instructors Simon SMITH and Brian FOTHERINGHAM; underwater videographer Uzi BARNAI; chef Stephen WELLS; hostess Rebecca HAYLLAR; volunteer expedition crew Claudia PETERSEN and Lou JOHNSTONE.

7. Passengers participating in certificated recreational diving from the Spoilsport included Christina Mae WATSON (Tina), David Gabriel WATSON (Gabe), Dawn ASANO, Tony HARRIS, Gregory MICKLE, Seth SIENKIEWICZ, Andrew, Adriana, Jacqueline and Jamie SHERMAN, Dr John DOWNIE, Michael LAWTON, David ROBINSON, Virginia and Douglas MILSAP, Samual EATHORNE, Tom and Grace HARRIS, Kenneth SNYDER, Robert and Karin LADOR, Gregory MICKLE, John GRAVES, Pierre MAYER and Gary STEMPLER

8. There were also contract commercial divers on the Spoilsport undertaking maintenance work on the site's moorings, including a Paul CROCOMBE.

9. Two other vessels also conducting recreational diving at the Yongala were present at the site, MV Adrenaline and MV Jazz II.

10. With regard to the conduct of certificated recreational diving at a workplace, the Compressed Air Recreational Diving and Recreational Snorkelling Industry Code of Practice 2000 (ICOP) gives the following advice about assessing and managing risks to divers:

11. Section 1.3: The employer/self-employed person should:
(a) undertake risk management at their own workplace to ensure the control measures he or she chooses are suitable for their workplace and the tasks being undertaken; and
(b) ensure all diving is subject to coordination by a dive supervisor or other person or persons who have been appointed by the employer/self-employed person for that purpose. Diving procedures should be documented along with the responsibilities of lookouts, dive supervisors, dive instructors and other workers with respect to health and safety.It is important that responsibilities are clearly allocated and the diving procedures to be followed are known to all parties.

12. The ICOP then goes on to dive the following advice about assessing and supervising certificated divers:
1.3.3D Certified divers - inwater supervision
The employer/self-employed person should ensure conditions at the chosen dive site are suited to the qualifications and skills of the divers. If an assessment reveals the dive site conditions are outside the qualifications and skills of the divers, then inwater supervision should be provided.

1.3.4D Certificated divers
The employer/self-employed person should ensure the diver supervisor assesses the competence of each diver prior to diving.
Factors taken into account should include:
(a) the recency of the diver's recreational certificate and of the last dive
(b) the diving experience of the diver since the certificate was gained, for example, as contained in log books
(c) the diver's current fitness to date.
If there are doubts as to the competence of the diver to complete a particular dive, a dive supervisor or dive instructor should accompany the diver on that dive or assess the diver during an assessment dive.

13. The ICOP also contains guidance material about panic which states:
2.4 Panic

Studies have implicated panic as a contributor to many recreational diving deaths. As panic develops, anxiety increases and a diver reduces his or her capacity to think rationally and may focus on only one act or goal while forgetting about other important requirements. For instance, a panicky diver might focus on reaching the surface, but forget to exhale during ascent.
Factors which can play a role in the development of panic include:
(a) equipment problems such as low air and ill-fitting equipment
(b) environmental hazards such as cold water, deep diving, marine animals and poor visibility
(c) personal factors such as fatigue, medical or physical unfitness, seasickness, alcohol intake, inexperience, excessive general anxiety, phobias, diving accidents, dizziness or disorientation
(d) inadequate instruction and training of divers. Effective explanation and training in relation to all relevant aspects of diving can help minimise the likelihood of panic. Additionally, it is important for a diver to know his or her limitations and to stay within these. While the person displaying anxiety and lack of confidence may be readily noticed and can be more thoroughly training, more carefully monitored, given more assistance or advised not to dive, also at risk is the overconfident diver who is out of touch with, or concealing his or her real capabilities and concerns.

14. A feature of the MBDE system of work with regard to ensuring the health and safety of certificated divers was the operation of the Safe Scuba System (SSS) (6.4.21). This is a documented system to assess divers to allow less experienced divers to safely experience the best dive sites available. The system is based on classing both the diver's experience and dive site conditions from "green" (less experienced, good conditions) through "yellow" to "red" conditions.

15. A diver with less than 15 ocean dives is a green diver. C WATSON had less than 15 ocean dives. The Yongala site was always classed as a "red" site.

16. The SSS goes on to state "green divers- first day dive must do reef/wreck orientation. First night dive must be orientation".

17. The staff responsible for conducting the SSS procedure staff are the trip director and dive staff.

18. The SSS states that the trip director is to ensure each guest completes the relevant paperwork to provide a record of their dive experience (6.4.9, 6.4.10). On this form it is stated "Yongala wreck requirement- … Anyone without Advanced certification or 15 logged dives with 5 in the last 12 months must complete a wreck orientation. Failure of assessment may prevent diving at the Yongala." The document goes on to state "Safe Diving Procedures- Novice divers must undertake safety orientation dives".

19. The SSS then states that the trip director then has a confidential discussion with each diver (husbands and wives are to be separated) and the experience level code with necessary orientation dives are then to be recorded on both the diver's form (6.4.9) and a summary sheet for all divers on board (6.4.7)

20. The SSS states that the trip director is then to arrange safety orientations for all green divers. The orientation dives then take place to orientate divers to conditions and must be repeated until the diver demonstrates the skills required. They may be performed by any MBDE dive staff.

21. The SSS then again states that divers without advanced certification or 15 dives must do a safety orientation on their first reef, night and wreck dive and that orientation details are to be recorded on each divers form.

22. The MBDE website advises customers about the operation of the SSS. It states "Safe Scuba System- .... Less experienced divers receive complimentary "orientation dives" as necessary." (6.4.8)

23. The documented system of work in the MBDE Dive Manual also includes a document "Diver refusing advice form" (6.4.22) In a note to staff at the top of this form it states " Do not use this form as an instant remedy for unsafe dive practice. "seriously" advise client of safety concern. Use only if client refuses to accept advice."

24. The trip director for this trip on Spoilsport was SINGLETON. Ensuring guest safety and ensuring that all diving complied with the vessel dive procedures manual (containing the SSS) (6.4.11) was a part of his job description. MBDE had systems in place that documented the training, agreements, job description, assessments and supervision of SINGLETON with regards to the system of work (6.4.12-6.4.16). SINGLETON recognised his role and responsibilities as trip director (SINGLETON para 1-11)

25. Christina Mae WATSON, nee THOMAS and her husband, David Gabriel WATSON were American certificated recreational divers who participated as customers in a Coral Sea trip conducted by MBDE aboard MV Spoilsport. (D WATSON 1-4)

26. The WATSONS were holidaying in Australia as a part of their honeymoon. They were married for 11 days when the incident occurred. D WATSON was certified through Scuba Schools International (SSI) as a Rescue Diver. C WATSON was a SSI Open Water Diver. This is the lowest level of recreational diver certification aimed to allow divers to dive independently (i.e. with a buddy) to 18m in conditions similar or better than those in which they are trained or have experience. Both were certified through a company called Dive Site Incorporated in Hoover, Alabama, USA.

27. Both divers also purchased their dive equipment through Dive Site Incorporated and used this on the MBDE trip, barring cylinders and weights which were supplied by MBDE.

28. C WATSON had undertaken 11 dives prior to this incident, all in the USA. It appears that only one dive was in sea water. The remainder appear to have been at a fresh water flooded quarry. She had dived to a maximum depth of 50' (15m) but mostly around 20-30' (6-9m). (D WATSON 47-50)

29. The data downloaded after the incident from C WATSON's dive computer showed the previous maximum depth recorded is 30 feet (9.14 meters). Three of the dives show maximum depths of 7 feet (2.13 meters).

30. The previous maximum dive time is 33 minutes. Of the other dives, 4 are between 10 and 20 minutes and three are under 10 minutes.

31. Two of the previous dives showed the variable ascent rate indicator with all five segments flashing. The graphic "TOO FAST" was also flashing. (COXON #2 9-11)

32. Inexperience of a diver is a recognised significant conrtributing factor to diving incidents. ("Scuba Diving Deaths" in "Report on Australian Diving Deaths 1972-1993", D Walker, JL Publications)

33. D WATSON stated that C WATSON "would always get a little nervous before diving but once she was in she was okay. I have not known her to panic in the water before. Tina was an average swimmer". (D WATSON 50)

34. D WATSON also indicated that he was unaware of any medical conditions that may have affected C WATSON underwater but that she had recently had a cold. He was unaware of her taking any medication excepting the contraceptive pill. (D WATSON 51-53)

35. On 21.11.03, the WATSONs joined the Spoilsport in Townsville. Passengers boarded the vessel in the evening and the vessel departed Townsville for the Yongala site at approximately 02:00 on 22.10.03 aiming to be on site for dawn.

36. PETERSEN met the WATSON's during the evening and stated that C WATSON was "she is one of these persons that is a bit stressed anyway. She reacted in a fed up and stressed way when someone mixed up her name." (PETERSEN pg 1)

37. After boarding on 21.10.03 T WATSON completed a MBDE booking form (6.4.9). On this form T WATSON wrote that she had done a total of 11 dives, all in the last 12 months; that she had undertaken no night dives and had dived to a deepest depth of 50' (15m). She did not complete sections to indicate her level of certification and date issued. However it was indicated that her certification was sighted by SINGLETON.

38. At the base of the form is a grid headed "orientations required- reef, wreck and night" This grid is blank. SINGLETON completed a dive experience summary sheet for all divers. (6.4.7) On this the entry for Tina WATSON is marked in both the "reef" and "night" columns, but not in the wreck column. Five other divers, ASANO, T HARRIS, MICKLE, SIENKIEWICZ, and STEMPLER are also marked in the "reef" column.

39. STEMPLER had not dived in the last 12 months and was advised by SINGLETON that he needed to do an orientation on his first dive along with his wife ASANO. STEMPLER also stated that he overheard that the WATSON's were to do their orientation that night. (STEMPLER 14)

40. SINGLETON then conducted his confidential dive status discussion with both of the WATSONs. It appears that this was done together. There was agreement that C WATSON should undertake an orientation dive on her first night dive on the following evening (D WATSON para 54)

41. SINGLETON disputes this stating that "I suggested to Tina to have an initial orientation dive with one of our instructors….. she advised me that she felt confident in her ability to dive without an instructor and that she would take one for a night dive." (SINGLETON para 12)

42. On 22.10.03 SINGLETON stated that he again asked C WATSON, in the presence of D WATSON, to join the orientation dive. C WATSON again declined saying she would do her orientation during the night dive. SINGLETON then stated "you don't have to wait, enjoy your dive". He then hugged C WATSON (SINGLETON para 22)

43. D WATSON disputes this again stating that SINGELTON said that he wanted to do a night dive orientation dive with C WATSON but that no other mention was made regarding an orientation dive. (G WATSON ROI 5-17)

44. When the WATSONs commenced their first dives from the Spoilsport on the morning of 22.10.03, they dived as a buddy pair and were not part of an orientation dive or any other type of supervised or assessment dive conducted by MBDE.

45. The divers were provided with a number of briefings. These were conducted by SINGLETON and attended by all of the divers including the WATSONs. A general dive briefing was given on the evening of 21.10.03. Another was given immediately prior to the diving on the morning of 22.10.03. This latter focussed on the specific requirements to safely dive on the Yongala. This briefing was illustrated with a diagram (6.1.1 Photo 5 and 6). SINGLETON had identified that there was a strong current at the site and that the dive was to be arranged as a drift dive. (SINGLETON para 18, SHERMAN para 6).

46. DOWNIE stated that SINGLETON had stated that it was a "red" dive due to the depth, current and as it was a wreck dive. (DOWNIE pg 2). Otherwise surface conditions at the site were fine. (HASLET page 1)

47. The dive plan was for divers to enter the water at the southern end of the wreck. They were to be transferred to the descent line by tender. The descent line was a buoyed line attached to the wreck. Divers would then proceed in a northerly direction along the wreck assisted by the current. At the north end of the wreck, an ascent line would allow the divers to return to the surface. This line was then attached by a surface line to the Spoilsport which was moored nearby. (SINGLETON para 18 and 21)

48. A properly executed dive in a moderate current should create no additional risks to diving than those usually present. However the risks increase when attempt to proceed in directions other than the natural flow of the current. The forces exerted by the water of even small currents (less than 1 knot) can rapidly tire or exhaust a diver,

potentially leading to breathlessness, panic or other stress related conditions. Current is an acknowledged and leading contributor to diving incidents (Chapter 45 "Stress responses, panic and Fatigue" from "Diving and Subaquatic Medicine" 4th Ed, C Edmonds et al, Arnold pub.)

49. The WATSONs commenced their first dive at 09:55 (6.4.6). FOTHERINGHAM was the lookout on Spoilsport. The WATSONS were transferred to the descent line in a tender and commenced their dive. Other divers in the tender were Jamie, Jacquie, Adriana and Andrew SHERMAN, John DOWNIE and Michael LAWTON. DOWNIE had dived with LAWTON. LAWTON stated that DOWNIE had said that he was concerned about C WATSON as she had grabbed and pushed him and appeared panicky. (LAWTON pg2).

50. After descending approximately 5', D WATSON's dive computer beeped to indicate it was not working correctly. The WATSONs returned to the surface and returned in the tender to the Spoilsport. (D WATSON para 26) (HASLET page 3).

51. JOHNSTONE thought that both C and D WATSON looked "anxious or stressed on their return and that "they were the ones to watch". She thought it strange that the WATSONS should proceed directly to dive again. (JOHNSTONE para 6-7)

52. Back on the Spoilsport, the WATSONs removed their dive equipment and their SCUBA cylinders were refilled. D WATSON examined his dive computer and found that he had installed a battery incorrectly. He replaced the battery and the computer appeared to function correctly. He was assisted by BARNAI in doing this.

53. SINGLETON stated that he had been told that this first dive by the WATSONs had been terminated in part because C WATSON had experienced problems with her weights in that she was under weighted and that she had had problems descending. SINGLETON did not find this abnormal. (SINGLETON para 25-26)

54. A dive safety log was kept for this diving (WHS Regs 86F). This regulation requires a dive safety log to be kept containing certain information. This records the first dive of the WATSONs as commencing at 9.55 and finishing at 10:15. Other information required to be recorded "as soon as possible" was the maximum depth, bottom time and the diver's signature. This information was not recorded. (6.4.6). Relevant information was also not recorded after the second dive undertaken by the WATSONs.

55. The WATSONs then geared up again and joined another tender to re commence the dive. This dive commenced at 10.30 (6.4.6). On this tender were SINGLETON who was conducting an orientation dive for two other divers, ASANO and STEMPLER. A volunteer expedition crew member PETERSEN also accompanied this group. The tender was again coxed by HASLET. PETERSEN stated that C WATSON appeared stressed and not happy. (PETERSEN pg3)

56. The Spoilsport remained moored to the east of the wreck on mooring 5. Two other dive vessels, MV Adrenaline and MV Jazz II had arrived and were moored to

the south west (mooring 2) and north (mooring 4) respectively (CROCOMBE and 6.4.4)

57. On board Jazz II were dive instructor Alana McMAHON, master, Barton PAINTER and diving customers Sun Min JEON, Stanley STUTZ, Neil JOHNSON, Jarrod FISHER, Han Gyu KIM, Ashik SHAH, Karl DIGGINS, Christian BENNETT and Lianne ENGLAND, a customer who remained on board the Jazz II.

58. The strength of the current at this time is a matter of some subjective opinion from the various divers. CROCOMBE, a diver with a very broad experience of diving this site personally and conducting recreational dives states that "there was a current running that novice would consider strong but was within the normal range experienced at the Yongala".

59. G WATSON describes the current as "severe", as "too much for a beginner" and "there's no way either of us would have done that dive had we known then". (G WATSON ROI 1-3). Another experienced diver, V MILSAP also stated that she found the current difficult to deal with and thought that C WATSON should have been accompanied by someone more experienced than her husband (V MILSAP p 5-6)

60. However Jacquie, Adriana and Andrew SHERMAN all experienced no problems with the current. MCMAHON from Jazz II likewise was not concerned by the current.

61. The tender again approached the southern end of the wreck and the divers entered the water near the descent line. The WATSONs descended first and together. They descended to approximately 40' (12m) until they could see the wreck when then left the line and swam over the top of the wreck for about 30 yards. D WATSON noted that from his experience the current was strong.

62. C WATSON then signalled D WATSON that she wished to return to the descent line. This meant swimming into the current. Both divers experienced difficulty swimming against the current. C WATSON appeared to be negatively buoyant and D WATSON signalled to her to inflate her buoyancy control device (BCD). D WATSON saw C WATSON squeeze her BCD inflator but did not think that any air entered her BCD. D WATSON noticed that C WATSON appeared scared.

63. D WATSON physically assisted C WATSON by pulling on both her hand and BCD. C WATSON then became unresponsive but appeared to be conscious and breathing. It then appears that she panicked, striking D WATSON and causing his mask and regulator to dislodge.

64. D WATSON replaced these items but in doing so let go of C WATSON. C WATSON began to sink towards the sea bed, apparently still conscious. D WATSON then decided to return to the descent line and summon assistance. He stated that he was concerned that he had been unable to return to the line with C WATSON, was concerned about the risks of a rapid ascent if he dumped weights or inflated her BCD, and was unsure of how else to assist her. (D WATSON ROI 4 and statement para 31-40)

65. D WATSON then swam to the descent line and began to ascend. He stated that he encountered other divers at 20' (6m) and attempted to signal his distress to them. He believed that he was unable to convey his meaning so he then ascended to the surface. This may have diver's descending from Jazz II but these diver's were unable to confirm sighting D WATSON. No other divers were identified as the one's D WATSON signalled to.

66. D WATSON outlined this same sequence of events to SINGLETON immediately after the incident. (SINGLETON para 49)

67. Seperation by dive buddies is a significant factor in diving incidents and contributes to fatal outcomes. One study showed that 80% of diving fatalities involved buddy separation before or during the incident. ("Scuba Diving Deaths" in "Report on Australian Diving Deaths 1972-1993", D Walker, JL Publications)

68. Upon surfacing D WATSON shouted and signalled distress. He was picked up by HASLET in the tender. HASLET radioed to Spoilsport to initiate a search. They then returned in the tender to Spoilsport. (D WATSON para 41-43, HASLET pg4-5).This was witnessed by the crew from Jazz II (MCMAHON para 12)

69. SINGLETON did not see the WATSONs underwater until he saw C WATSON on the sea floor. SINGLETON descended with the other three divers in his group, ASANO, STEMPLER and PETERSEN. He was particularly focussed on ASANO who was experiencing some difficulty with her buoyancy control. He had descended to about 25m and had been diving for about 5 minutes when he saw a female diver lying on the seabed.

70. STEMPLER had been taking photos and later noted that he had a photo showing a diver in the background face down on the bottom. The time recorded against this photo on his camera was 10:42 am (STEMPLER para 20-25).

71. SINGLETON was not alerted to any distress at this point. He looked for the diver's buddy and then noted that no bubbles were coming from her regulator. SINGLETON then swam directly to the diver and saw that it was C WATSON. SINGELTON noted that her dive equipment appeared in place but that her BCD was not inflated. She was unresponsive. SINGLETON then commenced to surface with C WATSON. (SINGLETON para 32)

72. ASANO, STEMPLER and PETERSEN continued with their dive.

73. During the ascent SINGLETON ditched his own weight belt to gain additional positive buoyancy. He held C WATSON's regulator in place. He passed and signalled other divers whom he thought were from the vessel Jazz II. SINGLETON's ascent caused his dive computer to activate its "too fast" ascent alarm. The computer worn by C WATSON also recorded an ascent rate alarm.

74. MCMAHON estimated that the time between D WATSON and SINGELTON surfacing was about 2 minutes (MCMAHON para 12).

75. On surfacing SINGELTON signalled towards Spoilsport but noted that he was next to Jazz II. The master of Jazz II, PAINTER swam to Singleton and together they swam C WATSON the approximately 10m to Jazz II and lifted her aboard. They were assisted by BARNAI who had come across in the other Spoilsport tender. (BARNAI 24-33). C WATSON's dive equipment was removed at this point. SINGLETON noted that equipment appeared in tact. (SINGLETON para 33-36)

76. The computer worn by C WATSON shows that she dived to a maximum depth of 31m for a total dive time of 10 minutes. The dive computer worn by D WATSON appears to have recorded this dive as 16m for seven minutes. This dive shows a descent to 16m followed by a steady ascent to the surface after 5 minutes. The computer worn by SINGELTON recorded that his dive commenced at 10:31, to a maximum depth of 27.6m and a dive time of 9 minutes. The profile was of a steady descent to the maximum depth over 8 minutes and then a rapid ascent to the surface. (COXON #2)

77. Other persons were also in attendance, including MCMAHON from the Jazz II and a commercial diver Paul CROCOMBE.

78. CPR resuscitation was commenced. BARNAI and SINGLETON noted that yellow fluid, foam and traces of blood were coming from C WATSON's mouth. There were no other apparent injuries.

79. After about 5 minutes HASLET brought a Dr John DOWNIE, a passenger from Spoilsport over to the Jazz II with some medical equipment.

80. DOWNIE assumed control of the resuscitation attempts. Oxygen assisted resuscitation continued. DOWNIE requested that his personal equipment be brought from his room aboard Spoilsport. He attempted to administer epinephrine via an epipen to C WATSON's jugular but was unsuccessful. An intravenous set was then provided from Spoilsport. DOWNIE set up an intravenous line and administered epinephrine twice. (SINGLETON para 37-39 DOWNIE pg 4-5)

81. Radio contact was made with emergency services in Townsville and the rescue helicopter despatched.

82. The returning divers from Jazz II were directed to Spoilsport.

83. DOWNIE punctured both sides of C WATSON's chest without apparent success (DOWNIE pg 5). He continued to administer epinephrine. And placed the IV into C WATSON's other jugular. DOWNIE used this to administer lidocaine. This exhausted the supply of relevant medications.

84. Another doctor, Stanley STUTZ then swam to the Jazz II after his dive and assisted in assessing C WATSON. STUTZ, DOWNIE and a doctor from Townsville General Hospital concurred that resuscitation could stop. DOWNIE then administered Liticaine and CPR continued for about another two minutes without effect. The attempts ceased at about 11.21.

85. C WATSON was transferred back to Spoilsport and placed in a cabin.

86. SINGLETON took control of C WATSON's dive equipment. He noted that the SCUBA cylinder gauge read 2000 psi and the valve was open. He noted that her BCD appeared undamaged. He secured her equipment, along with D WATSON's dive computer on the bridge of the Spoilsport.

87. The Spoilsport then returned to Townsville where it was met by officers from the QPS and WHSQ Inspector Leon THOMAS.

88. Following this incident MBDE reviewed their system of work and stated that they could find no fault with it, in that advice had been given to C WATSON to undertake an orientation dive. A memorandum was sent to staff advising their use of the diver refusing advice form. (6.4.23)

90. A post mortem has been performed by Prof David WILLIAMS, Townsville General Hospital. The autopsy report sataes that the acuse of death was drowning. There was evidence of gas embolism but this was thought to have coe from the rescue. No explanation was given as to how C WATSON drowned.

91. The dive equipment worn by C WATSON was examined by the QPS. It was found to be fully functional.

SECTIONS CONTRAVENED:

Mike Ball Dive Expeditions Pty Ltd, an obligation holder under the Act (s28), has failed to comply with that obligation (s24), in that Mike Ball Dive Expeditions Pty Ltd failed to ensure the that Christina Mae Watson's was not exposed to risks to her health and safety arising out of the conduct of Mike Ball Dive Expeditions Pty Ltd business or undertaking.

NATURE OF INJURY:

The Autopsy Certificate for C WATSON states "drowning" as the sole cause of death. The attached statement from the pathologist discusses the findings and states that there was evidence of gas embolism but goes on to say "in my opinion, the extensive gas embolism is a complication of rescue attempts rather than being a cause of death. The fact that she developed gas embolism suggests that she had a circulation when she was rescued." He concludes "I am unable to say how the drowning occurred."

Drowning is by far the most common cause of diving death (74-82%). A normally functioning human, with adequate equipment in a congenial ocean environment, is protected from drowning as he or she carry their own life support with them- the SCUBA system. Drowning would only occur when there is:

- Diver fault (pathology, psychology or technique);
- Failure of the equipment to supply air;
- Hazardous environmental influences. (Ref "Diving and Subaquatic Medicine" C Edmonds et al Chap 25)

In this matter there is no autopsy evidence of any underlying pathology and evidence that the dive equipment was functioning properly. This leaves psychology, technique and environmental influences as contributing factors.

The ICOP contains specific advice on control measures to assess and manage divers who show evidence of a lack of technique and where the diving environment has additional hazards. (sections 1.3.3D and 1.3.4D). The recommended control is to provide in water supervision by a dive supervisor. Failure by MBDE to provide this control allows an argument of causation to be made between this failure and the cause of death.

A similar link may be drawn between failure to provide edge protection and a person falling and suffering death from the fall injuries. The failure in itself does not cause the death but it can be argued that the failure to provide a system to minimise the fall occurring allowed the fall, hence causing the death.

However, there is advice from DS Gary CAMPBELL of Mundingburra CIB, that QPS investigations are ongoing with regard to possible unlawful killing (homicide) charges being brought against G WATSON. I am advised that evidence from the USA regarding the relationship between G WATSON and C WATSON, combined with the alleged behaviour of G WATSON during the dive and inconsistencies in his account are the basis of this investigation.

Certainly if charges are laid against G WATSON, then an argument of causation from the WHSQ charge becomes problematic and creates a line of defence on this issue.

SUMMARY WITNESS STATEMENTS:

a. C COXON
Inspector Statement
b. C COXON #2
Review of data contained on dive computers of C WATSON, D WATSON and SINGLETON
c. D WATSON
Husband and dive buddy of deceased
d. W SINGLETON
Worker of MBDE- Trip Director, assessed C WATSON's experience. Organised orientation dives. Rescued C WATSON and commenced resuscitation attempts
e. P CROCOMBE
Employer, commercial diver, owner of Adrenaline II. Very experienced Yongala diver and recreational dive operator.
f. J SHERMAN,
MBDE dive customer- on first attempted dive with WATSONs.
g. J SHERMAN,
MBDE dive customer- on first attempted dive with WATSONs
h. A SHERMAN,
MBDE dive customer- on first attempted dive with WATSONs
i. A SHERMAN,
MBDE dive customer- on first attempted dive with WATSONs