REPORT NO: 02 2829 VESSEL NAME: UNNAMED KAYAK

KEY EVENTS

1.1 On Friday 1 February 2002, at 0800 hours NZDT (New Zealand Daylight Saving Time), a group of 12 students and three Kayaking Instructors from Tai Poutini Polytechnic (TPP) gathered and began preparing equipment for a day's kayaking on the Buller River, on the West Coast of the South Island.

1.2 At approximately 0830 hours, three mini buses and their trailers were loaded with the equipment. The group was driven approximately 100 kilometres, from Greymouth, to a take out point on the Buller River known as the Iron Bridge (*Appendix 4 – Position A*). The take out point was where the students would be completing their river run that day and withdrawing their kayaks from the river.

1.3 At 1030 hours, the students arrived and changed into their kayaking gear. They packed away their clothes in the van, which was to be left at the site.

1.4 The students were transported to the put in site at Harry's Track, *(Appendix 4 – Position B)* which was approximately eight kilometres upstream of the Iron Bridge. The group arrived at the put in site at approximately 1100 hours, where the kayaks were unloaded.

1.5 The students were asked by the Instructors about what they wanted from the day's kayaking exercise (paragraph **2.18**). After deciding this, the group of twelve students was split into three smaller groups, each consisting of four students.

1.6 Mr Brett Whiteley, one of the Instructors, was offered one of two groups by the Senior Instructor, Peter Kettering. Brett Whiteley chose to take the group which had the deceased, Mr Timothy Jamieson (Tim), as a member.

1.7 At approximately 1115 hours, the students and the Instructors entered the river with their kayaks and set off downstream. Brett Whiteley's group (No.1), led the other two groups.

1.8 Brett Whiteley spoke to the four students in No.1 group while they were paddling through an area known as 'Earthquake Lake', which is approximately two kilometres long *(Appendix 4 – Position C).* He asked the students what they wanted to do and understood it to be, "a mix of running rapids, having some fun and just a little fine tuning".

1.9 Brett Whiteley asked his students if any of them had run this section of the river previously and was informed that three of them had done so. According to Brett Whiteley, Tim replied that he had rafted the section previously and gave him the impression that he may have paddled it some "three or four, five years ago".

1.10 Notwithstanding Tim's response, Brett Whiteley assumed that Tim had not paddled the section previously and explained to him the large volumes of water he could expect to find. He believed he told Tim, “the lines are simple, pretty much straightforward, might have to make one move", that "a rapid called 'Gunslinger' should be the hardest rapid on the run, and we could stop and have a look if you want" (before traversing the rapid). The Gunslinger rapid was situated two rapids downstream of Rodeo rapid, where the accident occurred.

1.11 No.1 group passed together through the first rapid without incident and paddled on towards a big rock, situated some 100 metres above the ‘One Night Stand’ rapid. At this rock, and along the true left of the river, there were a few eddies and a surf hole where Brett Whiteley gave his students some tips, which included reading the signs from the surface water flows to use the currents to their advantage. He remembered specifically keeping an eye on one student *(not Tim)*, as he had not paddled with him previously and was unsure of his ability.

1.12 No.1 group drifted into the ‘One Night Stand’ rapid and they each picked their own individual lines and passed through without incident to the eddies below the rapid.

1.13 Brett Whiteley commented on the next rapid to his group. He explained how it had changed since he had first paddled the river in 1980. It was known as the ‘Whopper Stopper’ rapid, due to previous standing waves at the start of the rapid. No.1 group subsequently passed through the rapid without incident, with each member keeping an eye on one another.

1.14 No.1 group headed towards the ‘Rodeo’ Rapid ***(****Appendix 4 – Position D****)***, where the accident occurred. They pulled into an eddy that was located a little upstream of the rapid and behind a large boulder that was situated in the middle of the river. Brett Whiteley told his students about the large boulder that had previously created a big surf wave and was a hazard at high river flows. This boulder had since moved, or there had been a change in the river bed around it through time, and it was no longer a sought after 'play piece' for kayakers *(Appendix 3 - Photograph 2 – Position A, showing the boulder).* No.1 group talked about finding a spot to have lunch ashore. Shortly afterwards, they began moving individually, out into the main flow of the current to travel through the rapid.

1.15 At approximately 1200 hours, the No.1 group began to enter Rodeo rapid. One of the students believed the order and positions of the group on entering the rapid were as follows:

1st. Brett Van Dam – centre right
2nd. Brett Whiteley – centre right
3rd. Tom Savage – centre left/moving left
4th. Tim Jamieson – keeping to the true left of the rapid but a little more over to the centre of the rapid than had Mr Savage, and finally
5th. Joshua Reynolds – centre right.

Brett Whiteley thought that Tom Savage had entered the rapid first, followed by Joshua Reynolds. He believed that he and Tim entered the rapid almost at the same time and that Tim had moved over to the true left of the rapid and behind him. On the basis of the above, Tim was either the last or the next to last to enter the rapid.

1.16 Mr Savage had seen a partially submerged log, known in kayaking terms as a 'strainer, that was situated in Rodeo Rapid, about 1 year before this accident, during a private paddling trip. He and others *(not Tim),* had negotiated Rodeo rapid in the week before the accident but at that time the log was not visible and he was unsure if the log was still in position. Mr Savage did not know for how long the log had been in Rodeo Rapid. The strainer *(Appendix 3 - Photograph 2 – Position B),* was situated approximately 25 metres from the true left bank and approximately 40 metres downstream of the large boulder mentioned in paragraph **1.14**, *(Appendix 3 - Photograph 2 – Position A). N.B. A strainer is a kayaking term given to a ‘hazard’ which, in this case, was a tree trunk and possible root ball in the river.*

1.17 Brett Whiteley passed the partially submerged log to his left, without incident, as he negotiated the rapid. Shortly afterwards, he saw Mr Savage pointing upstream. The river flow was welling over a boulder situated about one metre in front of the partially submerged log. Those who were kayaking with Tim considered this would have been a challenge for Tim as he came through the rapid namely, to pass over the top of this boulder and then drop into an eddy which he would normally expect to find on its downstream side. However, when Tim came over this boulder and before he had any time in which to manoeuvre clear, his kayak was immediately pushed by the river flow against the partially submerged log with the upper side of the kayak facing downstream. When Brett Whiteley turned back to look, he saw that Tim's kayak had been snagged by the partially submerged log.

1.18 It was at this juncture, that Brett Whiteley remembered about this particular hazard in the 'Rodeo' rapid.

1.19 Brett Whiteley was approximately 10 metres past the partially submerged log when he looked around and became aware of Tim's predicament. He was a further 20 metres downstream by the time he was able to direct his kayak to the true left bank of the river. Brett Whiteley exited the river, and carried his kayak ashore. He then asked Mr Savage to gather all the kayaker's rescue equipment together.

1.20 Brett Whiteley carried his kayak along the riverbank to a point upstream of where the partially submerged log and Tim were situated. He launched his kayak into the river, and paddled downstream towards an eddy that was situated immediately downstream of the log. However, he was unable to get high enough into the eddy to reach the log and as a result was swept downstream by the river flow before he could render any assistance to Tim. He again paddled to the true left bank of the river and climbed ashore with his kayak.

1.21 Brett Whiteley removed his spray skirt and climbed out of the kayak. *N.B. A spray skirt is used by kayakers to keep water spray out of their kayaks; it tends to be made from neoprene, is tight fitting at the kayaker's waist and stretches over a lip at the edges of the cockpit of the kayak to provide a watertight seal. To exit a kayak, the kayaker has to release this skirt from the cockpit edge.* He retraced his steps along the river bank to a point upstream of the partially submerged log and Tim. Brett Whiteley attempted to swim to the top of the eddy referred to in paragraph **1.20** but, on hitting the eddy line, he was again swept downstream by the river flow.

1.22 No.1 group, who were on the true left of the river bank, could see Tim was lying against the partially submerged log with his head and one arm just above the water. Tim's kayak was pinned by the heavy flow of water against the log. The cockpit of the kayak was facing downstream with the bow facing towards the true left of the river. The top of the kayak was occasionally visible above the water's surface.

1.23 After regaining the true left of the river, Brett Whiteley returned to the No.1 group which had assembled at a point opposite to where Tim and his kayak were situated, approximately 25 metres from the river bank. Using his hands, Brett Whiteley signalled to Tim to try and stay still. He was trying to get Tim to conserve his energy and also not to compromise his present position where he was able to breathe; the noise generated by the rapid prevented any of the group from communicating verbally with Tim.

1.24 Approximately 15 minutes after Tim became entrapped against the partially submerged log, the excursion leader, Mr Kettering, and his group of four students, who were following No.1 group, approached the entrance to 'Rodeo' rapid in their kayaks. No.1 group signalled for them to stop and they came into the true left bank of the river, above Rodeo rapid.

1.25 After Mr Kettering was briefed on the situation by Mr van Dam, he immediately paddled his kayak into the eddy downstream of the partially submerged log. On reaching this point, Mr Kettering told Tim to get out of his kayak. Tim struggled to free himself, but was unable to do so and was obviously trapped by the hydraulic force of the water pressure being exerted on his kayak that was pinning him to the log. Mr Kettering moved his kayak forward to allow Tim to grasp hold of the bow while he back paddled. However, Tim did not budge from his position as the water pressure held the kayak firmly against the log. Tim's stomach was hard up against the log and the upper edge of the cockpit was pressing against his back. His legs were held inside the kayak with his thighs compressed against the inner hull of the kayak.

1.26 After failing to pull Tim's kayak clear, Mr Kettering realised he had to get onto the log to help Tim keep his head above the water. Tim's head was a little above the surface at this time, with water occasionally hitting the back of his head and spilling over. Mr Kettering attempted to grab hold of the log and pull the kayak and himself against it. In doing so, however, he was pulled from his kayak and also lost his grip on the log. He was swept downstream but managed to swim ashore to the true left bank of the river.

1.27 At Mr Kettering's, request, Mr van Dam, took his kayak, and entered the eddy downstream of the log. However, when he released the spray skirt on his kayak, to grab hold of the log, he was swept out of the eddy and downstream. Mr Kettering asked Mr van Dam to remain at the bottom of 'Rodeo' rapid to collect the kayakers equipment which inevitably would be washed downstream in the rescue operation namely, items such as paddles, throw bags, lifejackets, etc.

1.28 Upon observing Mr van Dam's failed attempt to reach Tim, Brett Whiteley again tried to get to him. He managed to get into the eddy downstream of the log, but unfortunately dropped his paddle whilst trying to release the spray skirt on his kayak. Because the kayak was continually being pushed out of the eddy by the river flow, he used his hands as paddles to move forward towards the log. However, he was surged out of the eddy by the strong water current, when he stopped momentarily to release his spray skirt. He came ashore approximately 25 metres downstream of the log.

1.29 Mr Kettering made another attempt to reach the log, but as before, he too was washed down the rapid because of the heavy river flow.

1.30 After Mr Kettering and Brett Whiteley discussed how best they could get access to Tim, the rope bags that the students had gathered from the kayakers were taken to a rock garden situated above Tim's position. *N.B. Rope or throw bags are used in water sports, i.e., rafting and kayaking. They include a coiled length of rope approximately 6mm in diameter and approximately 20 metres in length. A rock garden is a term given to a group of rocks partially*

exposed in a river, (Appendix 3 - Photograph 2 – Position C – 'Rodeo' rapid shows the position of the rock garden, situated approximately 20 metres above the log where Tim was trapped). The students were asked if anybody, who was a strong swimmer, was prepared to volunteer and try and get to Tim.

1.31 In the meantime, Mr Reynolds, who was one of the students in No1. group, had paddled his kayak into the eddy downstream of the log. His kayak was a hindrance to getting close to Tim so he pulled himself out of his kayak which was swept away by the force of the river flow. He managed to grab hold of the log and found a rock underwater on which he could put his feet. He stood with one hand holding onto the log and used his other hand and his knee, to help Tim keep his head above the flow of the river. Tim was hanging onto Mr Reynolds who was finding it very difficult to stay on the log due to the hydraulic force of the water acting on his body. He supported Tim for about 10-15 minutes but found he was slowly losing hold of him due to the force and volume of the water.

1.32 Brett Whiteley and three of the students were able to make their way into the rock garden referred to in paragraph **1.30**. Brett Whiteley was standing on one large rock, whilst the students were standing on smaller rocks situated further upstream.

1.33 Another Instructor, Mr Ian Whiteley (Brett Whiteley's older brother), who was with the last group of students on the Buller river arrived at the top of 'Rodeo' rapid some fifteen minutes after Mr Kettering. He was signalled by his brother to head down the rapid and get into the eddy downstream of the submerged log. Ian Whiteley could not hear fully what his brother was trying to tell him, but realised that something was wrong. Ian Whiteley's students came ashore above Rodeo rapid on true left of the river.

1.34 Mr Mike Barker, an independent kayaker who was not under instruction, had travelled with the group. When he arrived above 'Rodeo' rapid, Brett Whiteley asked him to make his way to the same eddy and assist as necessary.

1.35 In the meantime, because of the continued force of the water acting on his body, Mr Reynolds was worried whether he would be able to remain on the log for much longer. For this reason, he decided reluctantly to let go of Tim in order to try and free Tim's kayak. This was done in the hope that Tim would come up with the kayak. However, at approximately 1230 hours, after tugging at the kayak with his free hand, it suddenly came free but without Tim who had disappeared underwater. The kayak was then washed downstream. When this occurred, Mr Reynolds lost his grip on the log and he too was swept downstream. Tim, who had slipped out of the kayak, remained trapped against the log with his head and body submerged.

1.36 Ian Whiteley, who at this point had arrived in the eddy, was unsure of the above events, as he could not see Tim from his position.

1.37 Brett Whiteley talked to Mr Kettering again about the plan to lower a strong swimmer down to Tim's position from the rock garden. Mr Kettering was waiting for Ian Whiteley to exit the eddy, before attempting another entry into the eddy himself.

1.38 Three swimmers, were individually lowered down the rapid from the rock garden, by Brett Whiteley and those assisting him, using ropes that were tied together. However, due to the strong flow of the river, it was impossible for any of the swimmers to get near the log safely.

1.39 At this point Ian Whiteley, who was still unable to see Tim, decided to leave the eddy in his kayak and came ashore downstream.

1.40 When Mr Barker entered the eddy he could see flashes of Tim's red lifejacket below the surface but could not see Tim. The heavy river flow prevented him from getting onto the log, so he came down the rapid and kayaked to the true left bank of the river.

1.41 When Ian Whiteley came ashore, Mr Savage told him where Tim was lying in relation to the partially submerged log. Ian Whiteley then paddled his kayak back into the eddy but when he attempted to get close to where he believed Tim was, he was swept downstream by the force of the water flow.

1.42 The No.1 group that was with Brett Whiteley in the rock garden, used a lifejacket that was tied to two ropes from throw bags and floated it towards where Tim was situated. However, the force of the river flow meant that the lifejacket could not be controlled properly to be of any use. The intention was for a rescuer at the log to use the lifejacket should it be required.

1.43 Mr Kettering managed to enter the eddy and was successful in pulling himself onto the log. He managed to gain some footing below the surface, on what he believed were rocks.

1.44 Mr Kettering could see Tim lying approximately 400mm below the surface of the water. He grabbed hold of Tim's lifejacket and pulled. However, the lifejacket was positioned high up on Tim's body and partially over his head so that when Mr Kettering pulled, it came free.

1.45 Mr Kettering tried unsuccessfully to free Tim by passing an arm under his torso. He could see others on the river bank trying to get a rope to him so he could attach it to himself and then be able to use both arms to free Tim. Mr Kettering was continually fighting against the heavy river flow to remain at the log.

1.46 Mr Barker attempted to throw a rope from the left bank, but it fell approximately five metres short of where Mr Kettering was situated. He made further attempts to reach him with the rope, but to no avail.

1.47 Realising that he could not free Tim by pulling on his torso, Mr Kettering attempted to pull one of his legs. At approximately 1240 hours, after several abortive attempts, Mr Kettering was finally able to wrestle Tim free from below the surface, by rolling his legs through an angle of about 90°.

1.48 As soon as he was freed, the river flow caught Tim and swept him down the rapid, on the true right hand side of the submerged log.

1.49 Mr Kettering pointed, for the benefit of those on the shore, where Tim had entered the rapid, after clearing the log. Mr Kettering then jumped into the water and was swept down the rapid. He could no longer see Tim, who was below the surface of the water.

1.50 On observing the above, Brett Whiteley began getting the No.1 group ashore to the true left bank of the river from the rock garden.

1.51 Ian Whiteley paddled his kayak into the river and started looking below the surface for Tim.

1.52 A student on the true left bank then spotted Tim below the surface. Shortly afterwards, Tim was recovered from the river.

1.53 An independent kayaker, Vicki Klemm, who was not under instruction, but who had travelled with the group, immediately commenced Cardio Pulmonary Resuscitation (CPR), aided by the Instructors. Her occupation is a critical care nurse in the United States of America.

1.54 A helicopter that had been working in the vicinity of Murchison arrived approximately 15 minutes after being notified by a Road Maintenance Manager, who had witnessed the accident from the main road. The road was situated approximately 150 metres distant from the river, at a point above and slightly downstream of 'Rodeo' rapid.

1.55 Mr Kettering instructed the helicopter to radio for a rescue helicopter with paramedics. In the meantime, CPR continued to be rendered to Tim.

1.56 At approximately 1400 hours, the rescue helicopter arrived at the scene. After the paramedic was unable to find any signs of life, CPR was discontinued.

1.57 A pathologist confirmed later that Tim had drowned.

KEY CONDITIONS

2.1 Timothy Jamieson was 21 years old and originally from Wellington. He had spent the last year attending Tai Poutini Polytechnic (TPP) and lived at an hostel in Greymouth. According to his tutors, Tim was highly motivated and had goals he strived to attain. One of these was to become a competent kayaker. He was keen and his 'river work' was considered to be progressing well by his Instructors.

2.2 Tim's mother, Mrs Rosemary Jamieson, stated that her son had been happy at the Polytechnic during the 2001 academic year. Tim loved the outdoors and had been looking forward to the forthcoming year at the Polytechnic.

2.3 TPP offered a Certificate in Outdoor Recreation and a separate Advanced Certificate in Leadership and Guiding. Tim attended and successfully completed the 32 week Outdoor Recreation Course and was awarded the Certificate.

During the above Outdoor Recreation Course, the time spent by Tim on water related modules was as follows:

- White water kayaking 8 days
- Rafting skills 8 days
- Sea kayaking 8 days
- Water Rescue 3 days

To achieve the TPP Certificate in Outdoor Recreation, Tim was required to pass all the above modules.

To complete the White Water Kayaking Module, Tim was required to pass all the White Water Kayaking units with a minimum of 75% for each theory assessment task and 100% for each practical assessment task. On successful completion of the above module, TPP expected Tim to be able to:

- Demonstrate / Describe / State general knowledge relevant to white water kayaking on Grade 2 water.
- Demonstrate / Describe / State an understanding of equipment used for white water kayaking on Grade 2 water.
- Demonstrate / Describe / State the basic technical skills that are used in white water kayaking on Grade 2 water.

(Appendix 1A – TPP Leaflet for Certificate in Outdoor Recreation and Appendix 5 – Classification of Rapids))

2.4 Tim had started the Advanced Certificate in Leadership and Guiding Course on 14 January 2002 when, at the end of the third week, the accident occurred, *(Appendix 1B – TPP Leaflet for Advanced Certificate in Leadership and Guiding).*

TPP's Outdoor Recreation Risk Management System, dated 1994, stated, with regard to Kayaking under the sub-heading – *Moving Water, Policies and Guidelines*:

"*Instructors must at some time previously inspect the venue for any activity involving moving water".*

Some of the students and Instructors at TPP had passed through the section of the river, which included 'Rodeo' rapid, the previous week. This did not include Tim or Brett Whiteley.

Brett Whiteley was told by Peter Kettering of several changes in the river's flow on the group's arrival at Harry's Track, but was not reminded of the log in 'Rodeo' rapid. *(Appendix 6 – TPP's Outdoor Recreation Risk Analysis and Management System).*

2.5 The Health & Safety Policy of TPP, which was last reviewed on 29 May 1998, stated that employees, contractors and sub-contractors were to report to the Polytechnic's Health & Safety Officer as follows:

a) "Every hazard or safety problem that you notice, IMMEDIATELY'.

b) "If you witness an accident or incident where someone could have been injured, you MUST report it immediately to the Tai Poutini Polytechnic Health & Safety Officer".

With regard to the above, the Investigator sighted a completed Accident/Injury Report Form by a Mr A MacDonald, dated 20 February 1997. This stated that a student had had a 'near miss' with the remains of a derelict bridge which had acted as a 'strainer' in the Arahura River. *This is a river which flows into the sea south of Greymouth.* This 'strainer' had been exposed after higher river flows had washed away gravel deposits. The Summary Outcome section of the report stated *"walk past the hazard. River checks?"*

There was no record of the log in 'Rodeo' rapid being identified as an existing hazard or a potential hazard, following a period of dry weather, and the steps that needed to be taken to isolate or minimise the threat that it posed.

2.6 All three groups had carried out a river rescue program on the Arnold River four days before this accident. *This flows out of Lake Brunner and is a tributary of the Grey River.* This included basic understanding of entrapment; using a rope to pass a lifejacket down to people and getting to sites where someone was in trouble. The students were taught to recognise water hazards, such as:

- **Strainers**.
- **Under cutting currents** namely, water flowing at or below the surface, i.e., at rock faces.
- **Re-circulating holes** where the water flow re-circulated upstream, e.g., at the downstream side of large boulders or shelves situated just below the water surface and in the main river flow.

2.7 On the day before the accident, the students were given instruction in slalom skills namely, weaving between objects in the river over a set course in as short a time as possible.

2.8 The students and Instructors on the Buller river on the day of the accident were as follows:

Group 1

Brett Whiteley	**Instructor**
• Joshua Reynolds	Student
• Brent Van Dam	Student
• Tom Savage	Student
• Tim Jamieson	Student

Group 2

Peter Kettering **Instructor (in charge overall)**

- Mike Verberne Student
- Ben Ryan Student
- Joel Flamank Student
- Scott McGlashan Student

Group 3

Ian Whiteley **Instructor**

- Kate Conaghan Student
- Earle Matete Student
- Lara Hanser Student
- Simon Cole Student

Independent

- Mike Barker
- Vicki Klemm

2.9 Mr Barker and Ms Klemm were kayaking on the river at the time of the accident. Mr Barker was employed by the Polytechnic and Ms Klemm was a partner of one of the Instructors. They were operating independently from the students and Instructors.

2.10 The Instructor accompanying Tim was Brett Whiteley. He had instructed Tim in white water kayaking and sea kayaking during the Outdoor Recreation Course in 2001, when he was employed by TPP as a part time tutor. He had been employed periodically by TPP for approximately five years. Brett Whiteley was also the Kayak Representative on the New Zealand Outdoor Instructors Association (NZOIA) Technical Sub - Committee and had assisted the Maritime Safety Authority (MSA) as an expert advisor in a canoeing accident where there were two fatalities.

2.11 Mr Brett Whiteley held a NZOIA Level 2 Kayaking Instructor Award. The scope of this award was to a personal level of competency on Grade 4 rapids, and the ability to teach and guide students on Grade 3 rapids on a variety of rivers. The award required that the holder had a wide range of skills in river rescue; being able to read the river's characteristics and have general river skills, ***(****Appendix 2 – NZOIA Kayak Instructor Stage Two Syllabus)*

2.12 Brett Whiteley started kayaking in 1980 and gained his Award in April 1990. He felt confident paddling Grade 4 rapids and stated, *"on my good days"* that he would run Grade 5 rapids. On the day of the accident, he recalled being fit and in a good frame of mind. He had had a good night's sleep and was well rested. Brett Whiteley had not paddled this particular section of the Buller river for approximately 12 months. At that time, the log in 'Rodeo' rapid was submerged and was not a hazard to kayakers.

2.13 When Brett Whiteley and his group of students, pulled into the eddy above 'Rodeo' Rapid he told them about a previous surf wave that used to exist in the rapid but which was no longer there. He did not talk about any current hazards in 'Rodeo' rapid or the lines that the students should follow on entering the rapid. He had not given any instructions as to lines the students should follow when negotiating previous rapids that day, and was allowing them to use their skills they had learned over the past year at TPP. The students were left to pick their own lines through the rapid. When questioned by the Investigator about this lack of instruction, Brett Whiteley replied, "*I, that would be, to me that would be being over protective, you know, at what point do I draw the line of letting guys with this amount of experience, you know, off the leash, so to speak. They were all capable of making moves and were confident of, you know, being in the water. But certainly, we were looking to be solid intermediate to advanced*

paddlers at that stage".

2.14 Mr Kettering had the overall responsibility for the other two Instructors and the twelve students that were on the river on the day of the accident. He had been an Instructor for the past 15 years and had 22 years experience of kayaking. He was employed in New Zealand for six months and then in California, USA for the remainder of each year. He held a New Zealand Level 2 Kayak Outdoor Instructors Award, issued by the NZOIA, *(Appendix 2 – NZOIA Kayak Instructor Stage 2 Syllabus).*

2.15 Mr Kettering was the safety kayaker for a rafting company in California in 1995, when a rafter fell out of a raft and died from heart failure. He had not had any experience of other fatalities whilst guiding, leading or instructing students and passengers in kayaks.

2.16 Mr Kettering said that before he became aware of the accident, it had been his intention to stop with his student group in an eddy behind the large boulder, situated approximately 20 metres above 'Rodeo' Rapid, to discuss which lines he expected them to take through the rapid. He was aware of the 'strainer' and considered the river to be sufficiently wide to allow the students to pick lines, keeping clear of the partially submerged log, without having to portage the rapid *(carry their kayaks along the adjacent river bank until downstream of the rapid).*

2.17 Mr Kettering considered Tim to be *"a mid-range intermediate. He could paddle on Grade 2 competently and get down Grade 3 without any worries".* 'Rodeo' rapid was graded as a 'Grade 3 minus', by the Instructors on the day of the accident, *(Appendix 3 – Photographs 1 & 2 – 'Rodeo' Rapid).*

2.18 Mr Kettering had decided that the day's outing on the river was going to be built around what the students wanted. This allowed the students to practise skills which they felt needed practise and to further develop skills, that they enjoyed using in certain river flow situations. Some of the students wanted to develop their technical skills, whilst others wanted to work more on 'play boating' skills, *(play boating is a term given to using conditions in the river to the kayakers advantage to spin around, jump over ledges ('boofing') etc.)*. Before this trip, Tim approached Mr Kettering and asked if he could do a bit more play boating. He said that he wanted to work with an intermediate group as opposed to being part of a lower end group namely, he wanted to test his kayaking skills to a greater degree and perhaps learn further skills by watching others.

2.19 Tim had not kayaked 'Rodeo' rapid before, although he had rafted it during his first year at the Polytechnic. The log was there at that time. However it is not known whether it was submerged or above water at that time, as the raft would have been taken down the main channel to the river right of the log and would not have been a concern to the rafters. Before reaching 'Rodeo' rapid, Tom Savage had spoken with Joshua Reynolds about whether the log would still be there. Tim was close by at this time, but he was not a party to the conversation. Mr Savage, who lived locally, had been down 'Rodeo' rapid approximately six times, the first time being when he kayaked with his High School. He could not recall when he first became aware of this hazard, but knew of its existence and was cautious of the potential risk it presented on the day of the accident.

2.20 Mr Kettering traversed this section of the river, including 'Rodeo' rapid, approximately 15 times a year. He had negotiated 'Rodeo' rapid three times since the beginning of 2002. He was aware of the log but had not seen it above the water surface since October 2001.

2.21 The weather at the time was fine and sunny. The water was cool, but not cold. On this basis, the Investigator did not believe that the water temperature was likely to have been a major contributing factor to this accident.

2.22 'Rodeo' Rapid was situated approximately 33 kilometres from Murchison, in the direction of Westport, following Highway Route 6. A river flow of 95 cumecs (cubic metres per second) was recorded by the Tasman District Council (TDC), at their flow monitor at Woolfs on the day of

the accident. Woolfs is situated at Three Channels Flat, approximately 14 kilometres downstream of 'Rodeo' rapid. There are several small tributaries which join the Buller River between the rapid and Woolfs, but they can largely be discounted as they are very small in comparison to the Buller's main flow, *(Appendix 4 – Section copied from Info Map 260-L29 Inangahua, showing the accident site).*

2.23 Tim's kayak was pinned by the heavy flow of water against the log. The cockpit of the kayak was facing downstream with the bow facing towards the true left of the river. The upper side of the kayak was occasionally visible above the water's surface. The water flowing onto the kayak was not aerated and, as such, was of considerable force. One of two vertical limbs of the log was lying across Tim's upper abdomen and the spray skirt of his kayak.

2.24 The log had been in the river for approximately three years and was well known to frequent users of the river. During this period of time, the log had become 'exposed' or 'submerged' on several occasions, depending on the flow of the river. It had been submerged since November 2001 and only in the period of two to three of days before the accident, had it become exposed again, because of the continued restricted rainfall in the region, *(Appendix 3 – Photo's 3 & 4 – Photo's of log/'strainer' taken at a lower flow to show the log more exposed).* The partially submerged log was acting as a 'strainer'. A 'strainer' is defined, in a river users sense, as any object that allows water to flow through it, but not a person or craft. Trees and bushes in a river are the most common form of a 'strainer'. These objects can be extremely dangerous to river users and need to be recognised in advance and avoided at all costs.

2.25 Situated immediately upstream of the submerged log was a 'pour' or 'flow' of water over a large static boulder, which was then falling in front of and onto the log. This boulder was situated approximately one metre upstream of the log and obscured the log from anyone on the river approaching from an upstream position. The flow of water was striking Tim's head and shoulders. He was struggling to keep his head and shoulders above the surface from a position where his back was being forced against the after cockpit area of the kayak. He was having to twist his upper back and shoulders to keep his head up to breathe.

2.26 The force and direction of the water had forced Tim's lifejacket over his head by the time Mr Kettering was able to pull him free. Nearly all his clothing had been removed by the force of the water by the time he was pulled to the river bank.

2.27 Tim was equipped with the following safety equipment:

- A medium sized lifejacket (rescue vest), manufactured by Topsport in Christchurch to New Zealand Standard (NZS) 5825. The lifejacket had a buoyancy of >59 Newton's and was suitable for persons of >40kg's, *(Appendix 3 – Photo 5 – Lifejacket).* The lifejacket was fitted with a whistle and had a carabiner attached to its internal webbing to facilitate the extraction of the wearer in an emergency situation. There was a good lock knife, with a serrated blade, located in a zipped pocket of the jacket.

- Plastic safety helmet.

- Neoprene spray skirt with the freeing tab attached at the fore end. The skirt formed a seal between the kayaker and the kayak's cockpit edge with the release tab on the skirt allowing the kayaker a quick release option when required.

2.28 The kayak was in good condition. It was constructed of plastic and was a rodeo freestyle model, manufactured in the United States. The kayak was approximately four years old and had an overall length of approximately two metres. This type of kayak was considered appropriate for the training being undertaken*, (Appendix 3 – Photo 6 – Kayak).*

2.29 Tim was wearing a thermal vest covered by a semi-dry top with trousers and a polypropylene undergarment. It is not considered likely that the provision of a wet suit would have assisted Tim. Whilst it would have provided a degree of additional buoyancy, the mechanics of Tim's entrapment meant that it would not have kept his body and hence his head any further above the surface of the water.

2.30 Because of the local topography, cellphone coverage did not extend to the area where the accident occurred. Iridium satellite telephones, however, were available at the time of this accident and, if one had been carried, could have been utilised to summon emergency assistance. The Iridium Satellite system involves a low earth orbit constellation with 11 satellites in six orbital planes, that orbit at 750 kilometres above the earth in north/south orbits.

2.31 The system is global. The availability of 'line of sight' from the phone to the satellite is determined by the local topography. In a desert or on the ocean, as soon as one satellite gets low on the horizon, the next orbiting satellite has already 'risen' above the opposite horizon, enabling all phone calls to be handled seamlessly from the first to the second satellite and so on.

2.32 Each individual satellite is visible above the horizon for about nine minutes. In steep terrain, similar to the situation in this accident, a satellite can 'on average' be expected to be overhead and in 'line of sight' for about three minutes or about a third of the time it is above the horizon. Accordingly, on a worst case scenario basis, a maximum of approximately six minutes can elapse before the next satellite comes overhead and communication can be restored.

2.33 It is a moot point whether outside assistance, in the form of an helicopter, equipped with a cargo hook, strop/long line and harness/rescue belt, could have arrived in time to lower a rescuer to Tim in an attempt to lift him clear. Helicopters, fitted with this type of equipment were based in Westport and Reefton, both a relatively short distance away and operated by skilled personnel who were knowledgeable of the area. Dedicated rescue helicopters were also available at Greymouth and Nelson but these were probably too far away *(about 40 minutes flying time)* to be able to render assistance in time.

CONTRIBUTING FACTORS

N.B. These are not listed in order of importance.

3.1 The failure of any of the Instructors at TPP and in particular Brett Whiteley to scout the rapid properly, either just prior to or during the trip, to determine the presence of any hazards and implement and execute the appropriate procedures to minimise any risks that they posed, particularly following a period of dry weather when 'new' hazards might have become exposed in the river.

Comments on the draft report raised the issue that in easier rivers, or with prior knowledge of the river, or where a clear view is obtained from top to bottom of the rapid, a team may 'boat scout' the rapids (view the rapid downstream from their boats) in the interest of speed and maintaining movement and momentum. In this instance, however, Brett Whiteley's knowledge of the river was not current (he had last kayaked this section about 12 months previously). Further, as events tragically proved, not all the rapid could be boat scouted properly (the strainer could only be seen from a bank scout of the rapid).

3.2 The failure of Brett Whiteley to discuss with his students, the lines that they should take through the rapid in order to minimise the risk of any dangers.

Comments on the draft report stated that there were obvious 'clean' lines of travel in Rodeo rapid and that as Tim was either the last or second last to go he would have seen his instructor and another student take the two easiest and best lines but chose not to follow either.

3.3 The failure of Brett Whiteley to recall the presence of the log in the rapid.

Comments on the draft report stated that the log in Rodeo rapid was such a well known hazard to regular users of this section of the Buller river that it was an almost instinctive reaction for them to keep clear by staying on the true right of the river when negotiating Rodeo rapid.

3.4 The failure of Mr Kettering to remind Brett Whiteley of the presence of the log.

3.5 The failure of TPP's Outdoor Recreation Risk Analysis and Management System to identify the log as an existing or a potential hazard, particularly following a period of dry weather and to identify the steps that needed to be taken in order to isolate or minimise the threat that it posed.

3.6 Based on the instruction that they had received during their Outdoor Recreation Course, the failure of any of the students to check firstly with the Instructor whether he had scouted the rapid properly for any hazards and, in the light of this, what the best line was to take through the rapid. Secondly, the failure of the students to discuss the rapid and/or potential hazards amongst themselves before setting off. It should, however, be noted in this regard that 'peer pressure' and unwillingness not to follow the group approach may have been a factor militating against such action (one of the students strongly disputed this statement). In any event, the failure of Brett Whiteley to lead by example and either scout the rapid properly himself or instruct others to do so, is likely to have been a significant factor in the students minds when deciding whether or not to question the Instructor and/or act on their own initiative.

3.7 Tim's decision to steer his kayak over the boulder that was immediately upstream of the partially submerged log.

3.8 The recent exposure of the log above the surface of the water which significantly exacerbated its danger as a hazard to kayakers.

3.9 The presence of the boulder immediately upstream of the log, which obscured the hazard from the kayakers when they entered the rapid.

3.10 The hydraulic force of the water flowing over the boulder and onto the log where Tim was trapped, which kept him and his kayak pinned firmly in position and resulted in his lifejacket ultimately being displaced upward and over his head.

3.11 The possibility that Tim's shoulder may have been dislocated (he told one of the Instructors he thought this had occurred), which would have greatly hindered his efforts to try and free himself.

CAUSE

Human Factor

❑ Failure to comply with regulations	❑ Drugs & Alcohol	❑ Overloading
❑ Failure to obtain ships position or course	❑ Fatigue	❑
Misconduct/Negligence		
❑ Improper watchkeeping or lookout	❑ Physiological	■ Error of judgement
❑ Lack of knowledge	❑ Ship Handling	❑ Other . . .

Environmental Factor

❑ Adverse weather	❑ Debris	❑ Ice	❑ Navigation hazard
■ Adverse current	■ Submerged object	❑ Lightning	❑ Other . . .

Technical Factor

❑ Structural failure	❑ Wear & tear	❑ Steering failure	
❑ Mechanical failure	❑ Improper welding		❑ Inadequate
firefighting/lifesaving			
❑ Electrical failure	❑ Inadequate maintenance	❑ Insufficient fuel	
❑ Corrosion	❑ Inadequate stability	❑ Other . . .	

4.1 The fast flowing water held Tim and his kayak against a log which, until recently, had almost completely been submerged. During a number of abortive attempts to free him, he gradually weakened and drowned.

OPINIONS & RECOMMENDATIONS

5 Opinions

5.1 The Investigator considers that the Instructor, Brett Whiteley, was at fault for failing to scout the rapid properly for any hazards before No.1 group set off down the rapid. Further, he was at fault for failing to remind the group of the need to be aware of additional hazards, which might not be capable of being scouted properly from the top of the rapid because say, of intervening obstructions, and that accordingly such areas should be given a suitably wide berth. Moreover, the Investigator considers that Brett Whiteley was at fault for not monitoring and leading the students through the rapid in a manner congruent with the risks involved. This was particularly important, given he had not kayaked this section of the river for 12 months and hence was unaware of any 'new' hazards that might have arisen in the intervening period.

5.2 Brett Whiteley failed to give any guidance as to the lines the students should take through the rapid, as he believed the students were experienced enough for this type of trip. Whilst, he might not have been expected to expressly 'guide' the students in all matters during the trip, he was nevertheless present, employed and responsible to provide a facilitation role in matters where safety was at risk; to provide a duty of care and to lead by example. Indeed, if he wanted to foster autonomy, he could have asked the students what they thought and checked and agreed their analysis of the situation before allowing them to run the rapid.

5.3 Brett Whiteley, as an experienced kayaker knew that rivers continually change with hazards appearing, disappearing, and re-appearing as occurred in this case. Proper and thorough hazard risk assessment and analysis before and during any river trip is therefore a vital tool and of fundamental importance, given the dynamic nature of this operation and the ever present potential for serious injury or death.

6 Recommendations

N.B. These are not listed in order of importance

6.1 All significant and potentially significant hazards in rivers used by TPP should be carefully identified, critically assessed and analysed by suitably qualified personnel at appropriate intervals, so that remedial measures can be put in place to minimise, isolate or eliminate the said hazards. In this regard, it is recommended that active consideration be given to eliminating the hazard posed by the partially submerged log in Rodeo rapid, by explosives or by other such means as are considered appropriate.

6.2 It is recommended that a representative from the NZOIA, who has extensive skills and experience in white water kayaking and who has no previous connection with TPP, be instructed by the Operations Division of the Maritime Safety Authority to conduct a critical in depth audit of TPP's Outdoor Recreations Risk Analysis and Management System and their Health and Safety Policy and, if considered appropriate, to recommend changes to the said Management System and Safety Policy. The said representative to additionally assess and critically review the methodology used by TPP in hazard identification on rivers and how information obtained on such hazards is disseminated to Instructors and students alike, to ensure all concerned are more fully informed and made aware of the means by which hazards can be isolated or minimised.

6.3 It is recommended that Brett Whiteley be severely censured for his failure to scout the rapid properly beforehand and for failing to monitor and lead the students through the rapid in manner congruent with the risks involved.

6.4 It is recommended that NZOIA critically review and consider whether in the light the circumstances leading up to this accident, it is appropriate that disciplinary action be taken against Brett Whiteley.

6.5 It is recommended that TPP give active consideration, subject to satisfactory trialling, to the carriage of a satellite telephone when engaged on any white water activities in areas where cellphone coverage is not available or where cellphone reception is considered to be poor or unreliable.

6.6 It is recommended that in addition to the interested parties in this accident, that copies of this report be sent to SKOANZ, NZOIA and all Polytechnics and other educational bodies involved in white water kayaking.