

## Day 9

### **10.35am: The jury will today hear evidence from the 57th witness in the trial, Moggill MP Dr Bruce Flegg.**

“I’m a backbencher in the Queensland Parliament and still registered as a medical practitioner,” he said.

He said he had known Baden-Clay for “quite some years” and principally in the capacity of him being the president of the Kenmore Chamber of Commerce.

He said he was on the phone in bed at his home on Nioka St at Brookfield on April 19, 2012.

“I heard what I would describe as a female scream, I’m quite certain it was a female voice,” he said.

“I’ve had a lifetime as a medical practitioner and I have had countless experiences with both death and reduces levels of consciousness due to injury, substances and anaesthesia ... it was a single, reverse-crescendo in volume, tapering off and what I would describe as having an involuntary quality.

“The tone and the nature of the sounds was more ... very strongly suggestive of a reduced level of consciousness, there’s a difference between people who might be screaming at each other from an argument for example, and somebody who lets out a sound when their conscious state is altered.”

Dr Flegg said the scream was “short” and lasted two or three seconds.

He said his home was elevated and the noise he heard came from the direction of the Brookfield Showgrounds.

“I remember the particular incident because it was distressing ... I immediately said to the person I was talking to, did you hear that?” he told the jury.

He said he went out the front door to see if there was anyone around his home.

Dr Flegg said there was another person sleeping in a room at the back of his home and he went to see if they had also heard it when he heard the scream again.

“I couldn’t necessarily swear to the loudness because I was in a different location but the tone and the nature were exactly the same,” he said.

“Similar (in length), certainly not longer, if anything it may have been shorter.”

He said it would have been two to three minutes between the two screams.

Dr Flegg said he used his phone to determine the time he heard the scream was 10.53pm.

He said he had only become familiar where the Baden-Clays lived until after the disappearance of Ms Baden-Clay.

Dr Flegg said he heard nothing else that night.

“That would be the case most evenings,” he said.

Dr Flegg said he spoke with Baden-Clay about a financial transaction in mid-December, 2011.

“Yes, that’s correct, my recollection and I have reread my statement previously, is that Gerard called me and it was just a regular sort of call and said ‘you know, could we catch up’,” he said.

“I arranged that I would go and see him in his new real estate office in Taringa, which I had to get directions for because he’d previously been in Kenmore.”

Dr Flegg said Baden-Clay told him he had a “situation” in his business.

“The situation involved the money that he owed to business partners and I’m fairly sure he said business partners who had left the business and he wanted to keep ownership of the business, including the rent roll and needed to raise \$400,000,” he said.

He said Baden-Clay would not tell him who the business partners were.

Dr Flegg said he asked Baden-Clay if he was looking for an equity partner to buy into the business.

“He was quite adamant he was not looking for someone to put equity in,” he said.

“My pretty clear understanding was that he wanted to keep his equity at whatever level it was at the time, that he didn’t want another partner to come in.”

He agreed he met with Baden-Clay at the Kenmore Tavern in February, 2012.

“Gerard seemed a bit annoyed with me and said would I step outside to have a quick word and he felt somebody said something to him that indicated I said to someone that his business was in trouble ... I assured him I had not said anything about our previous conversation with anyone,” he said.

Dr Flegg said he received a message via phone from Baden-Clay on March 6, 2012.

“I got a message from Gerard, I’m fairly sure it was a voice message ... basically asking me to give him a call,” he said.

He said he did not return the call because it was during the state election.

Dr Flegg said he asked Susanne Heath to call him back.

He agreed he phoned Baden-Clay in March some time.

“From what I can remember it was relatively short and I think that Gerard had the understanding Sue had conveyed to me the intent of the call and it wasn’t going anywhere,” he said.

Dr Flegg said he previously had social contact with Baden-Clay at Chamber of Commerce functions and Christmas functions.

“I just can’t recall meeting her...,” he said of Baden-Clay’s wife.

Dr Flegg said Baden-Clay had not asked him for a loan before.

He said he could not recall meeting Toni McHugh.

“She was involved in the sale of a property I was selling but I certainly did not meet her on that occasion and I don’t remember speaking to her,” he said.

**10.45am: In cross-examination by barrister Michael Byrne QC, for Baden-Clay, Dr Bruce Flegg agreed he thought the scream he heard on the night of April 19, 2012 sounded as if it came from close to his house.**

“It was quite a disturbing event and I was agitated and I did, initially, I went out and had a look at the front of the house, which is probably the more likely place for where the sound would come from, but finding nothing I looked at other possibilities,” he said.

He agreed he thought it was within a couple of house blocks.

Dr Flegg said he now knew where the Baden-Clay home was.

“It’s a good distance to the Baden-Clay home on Brookfield Road, I would think at least a kilometre, maybe more,” he said.

He agreed the Brookfield Showgrounds was roughly 1.5km from his home on Nioka St.

“I would be extremely surprised,” he said of the scream having come from so far away.

Dr Flegg agreed he had shared meals with Baden-Clay but most likely only at Chamber of Commerce functions.

He agreed they went to see a show together but the accused asking for a loan had been a surprise.

“Perhaps it did a little, but not greatly,” he said.

Dr Flegg agreed he called Baden-Clay back after he asked for a loan through Ms Heath around March 11, 2012.

“I couldn’t say the date but it was during the campaign,” he said.

Dr Flegg agreed Baden-Clay by then had moved on from asking for the loan from Ms Heath.

**11.00am: The 58th witness in the trial is computer consultant Robert Cheesman.**

He said he was friends with Gerard Baden-Clay and first met him in high school in 1983 at Toowoomba Grammar School.

Mr Cheesman said he and two friends loaned Baden-Clay money in February, 2011.

“He suffered some setbacks with the floods and other issues with the declining real estate market, his partners wanted to exit the business and he saw it as an opportunity to take back control of the business,” he said.

He said he lent Baden-Clay \$90,000 over a series of instalments in 2011.

“The business was clear in trouble but I saw it had a way out,” he said.

“There expenses were too high, mainly in rent and some staffing, and part of the deal was he would sort those problems out.”

Mr Cheesman said the cash flow was “bad”.

“The intention was there would be a formal agreement but we never got around to it,” he said.

He said Baden-Clay was meant to pay interest of 10 per cent.

“We received interest for the first few months, not sure how many months,” he said.

Mr Cheesman added it could have been three or four months and he definitely received a payment in July, 2011.

He said Baden-Clay still owed him \$90,000 in April, 2012.

Mr Cheesman said he was fairly heavily involved until Baden-Clay’s wife returned to the business around September and October, 2011.

“I was mainly checking for waste, I didn’t want to see any money wasted,” he said.

He said he continued to receive reports on houses being sold after that time.

Mr Cheesman said he discussed the rent roll with Baden-Clay around that time, as well.

“He wanted to buy out the other partners,” he said.

“He was looking for bank finance initially and he sought other finance and in the end he got payment from the other partners ...”

He said Baden-Clay deferred the payment for the rent roll in April and June, 2012.

Mr Cheesman said he met Baden-Clay's wife but did not know her well.

He said he did not know of a relationship with Toni McHugh, either.

He said the money he loaned Baden-Clay was never secured against anything.

In cross-examination by barrister Michael Byrne QC, for Baden-Clay, Mr Cheesman agreed he spent some time investigating the business and its previous accounts before footing the loan.

"We were expecting to get the money back ... I guess we wanted to help Gerard and Allison out but we expected to get the money back based on our investigations," he said.

He said a financial controller and an executive from Hewlett Packard helped go through the figures.

"It was mostly around the forecast, Gerard presented us with spreadsheets showing us the revenue and expense with some assumptions and I guess we had quite a few discussions about whether or not his assumptions were satisfactory," he said.

Mr Cheesman said over a six-month period he approved expenditure at the business and talked regularly to Baden-Clay.

"When Allison came back to the business I stood back a little bit," he said.

He said Baden-Clay was optimistic about the business.

"We wouldn't have lent him money unless we believed we would get it back, yes, he was very optimistic," he said.

"He was more optimistic than I was ... but I guess I was still comfortable there was enough wiggle room there that the business would still make a profit and he would be able to pay us back in a reasonable amount of time."

Mr Cheesman agreed he had never asked for the money back.

He said Baden-Clay's personal financial structure was set up so that his assets were in his own name, he was the trustee of the sales business and the rental business.

"On balance we decided it was a worthwhile investment," he said.

Mr Cheesman said the way Baden-Clay's finances were structured meant there was limited risk for him personally.

"Personally he was secured but the businesses themselves was where all his risk was," he said.

"It's a limited liability business so there was no personal risk to him."

He agreed the majority of Baden-Clay's debt was in the business, other than a personal credit card debt.

Mr Cheesman said he had known both Baden-Clay and his wife over a long period.

"She was, she had ambitions, admirable ambitions, so yes, I'd describe her as optimistic," he said.

He said he understood Ms Baden-Clay wanted a son through conversations with the accused.

"I knew she was suffering depression and I knew he was finding it very hard ... he occasionally opened up but then he closed down again," he said.

Mr Cheesman agreed Baden-Clay had previously been a successful businessman whose business Century 21 Westside was listed on a BRW "Fast Starters" Top 100 list in 2008.

He said he knew Baden-Clay's father, Nigel Baden-Clay.

He agreed he had a conversation with Nigel Baden-Clay, who rang him, on April 20, 2012, worried about the number of police speaking to his son.

"He suggested he contact a lawyer and it wasn't necessary and focus on finding Allison," he said.

**11.30am: The 59th witness in the trial is Stuart Christ, who went to school and university with Gerard Baden-Clay.**

He said he was a business development manager at Hewlett Packard.

Mr Christ said he had been close friends with Baden-Clay, although in recent years not as close.

He said Baden-Clay approached him in late February, 2011.

"We received a call from Gerard basically saying business wasn't going so well, it was a fairly vague call, and I went over to see Gerard that night or a couple of nights later to see what was going on," he said.

"Just that the business had been going quite well, they had just expanded massively to a new business premises from Kenmore to Taringa and hired a whole bunch of new sales staff and the floods hit, so cashflow stopped."

Mr Christ said he looked through the business' financial records with Robert Cheesman and Peter Cranna.

"In late February, 2011, without a further cash injection, the business would have been in severe trouble, simply there was no cash in the bank to pay the bills," he said.

"Over a period of months, the three of us injected a series of funds into the business and kept a very close eye on expenditure, because of the rapid expansion and then the complete drop

in cashflow, expenditure was a major problem. We pushed the business to reduce expenditure.”

He said he gave the Baden-Clay’s \$90,000 over three instalments.

“I believe there was approximately but I would say two payments in March and a third payment late April, something like that, maybe May,” he said.

Mr Christ said the idea was the funds would get them out of short-term trouble and that over a period that was undefined he would be paid back at 10% per annum until it accrued to \$180,000.

“There was no signed written agreement about that,” he said.

Mr Christ said Baden-Clay paid three interest payments over June, July and August.

He said by April, 2012, none of the principal \$90,000 loan was repaid and no interest was repaid since July or August, 2011.

Mr Christ said the Baden-Clay business was in negative cashflow at the time and “basically worth nothing”.

“It was losing money,” he said.

He said the rent roll was vendor financed to an amount of roughly \$300,000 by previous partners in the business.

“That basically means that they agreed to give Gerard the business and he would pay them off over time,” he said.

“It would have been late 2011.”

Mr Christ said he did not know whether the accused was required to make payments through the agreement.

“As far as I’m concerned we gave that to Gerard and Allison, you keep referring to him,” he said.

“We spoke to Allison regularly and she was very much aware of this. We did not speak to Allison, we paid the money into Allison and Gerard’s joint business bank account.”

He said Ms Baden-Clay was an owner in the business and involved in “overseeing” the business.

“She didn’t have a huge amount of involvement day-to-day, very little,” he said.

Mr Christ said he may have met Toni McHugh but did not recall her.

He said he did not know about the affair.

Mr Christ said Ms Baden-Clay became more involved in the business in late 2011.

“That actually gave us a lot of comfort,” he said.

“The impression I have was that Allison was involved in the day to day management of the rental business and involved in the day to day management of the business in general.”

Mr Christ said Ms Baden-Clay was in another room, and the accused left the room to check something with her, while they were meeting to determine the terms of the loan.

“I did not speak directly to Allison at the time of the loan. She was not in the room, no,” he said.

He said he kept an eye on the business.

“We initially required very regular updates on the business and that was coming through from one of the staff, so the amount of sales occurring, the expenses that were going out, I wanted to see reports on those. We also asked Rob Cheesman to actually oversee expenditure so it was cut, because expenditure was a major problem,” he said.

“We had an eye on it right through, I guess in late 2011, I became a lot more comfortable that the business would survive and until then we were very concerned and did not want to lose the investment we made, so we kept a close eye on things.”

He said Baden-Clay asked for more money at various times as they projected cash flow but none was given.

“It would have been a specific amount that was looked at in terms of a cashflow projection I cannot recall what that was,” he said.

“It would have been in mid-2011, so maybe July or August, something like that.”

Mr Christ said he discussed with Baden-Clay how he would purchase the rent roll.

“It would have been along the lines of, ‘if you can finance this outside of us giving more money, more risk, then that’s fine’, but ... I would have had to have borrowed money to invest more and at that point, I didn’t want to do that,” he said.

**12.20pm: The jury has heard continued evidence from the 59th witness in the trial, Stuart Christ, who went to school and university with Gerard Baden-Clay.**

In cross-examination by barrister Michael Byrne QC, for Baden-Clay, Mr Christ said he was aware of Ms Baden-Clay’s depression.

“We would occasionally go camping together as two couples with families and at times Allison would be quite removed, I guess is the best way to describe it, at other times she was great,” he said.

“Happy, don’t know about extroverted, but she was fun.”

He said at other times she was very quiet and “reclusive”.

“The other time I became aware of it was when I would go occasionally to drop the children off and usually Allison would be at the door smiling and happy and other times she wouldn’t be there . . . the kids would say she was in bed early or wouldn’t be coming out and that was no big deal, that was Allison,” he said.

Mr Christ said he never asked for the loan he gave Baden-Clay to repaid.

“I believe that the repayments would have been, this was a verbal arrangement, so we weren’t terribly worried as long as we were getting interest, but the total repayment would have been \$180,000. So he would pay the principal and then he would have continued paying I believe but we capped that, we wanted that capped, we didn’t want it going on forever,” he said.

He agreed it was a loan agreed to after going through profit and loss statements, budgets and cash flow.

Mr Christ agreed it was a process of due diligence carried out by three professionals, not merely mates.

“There was risk involved and we were happy with that risk up to a point,” he said.

He said it was a chance to help his friends and make some money, hopefully.

Mr Christ said outgoings in the business included staff costs, internet connections and photo copying expenses that would take time to bring down.

“The area that they rented for the premises, they cut down the premises and sublet part of the premises and downsized vehicles, that type of thing,” he said. “From a Lexus to a Captiva.”

He said an injection of funds in the business was designed to keep the business going to a point where it would break even and then turn around.

“The floods had hit in early 2011, I think, and basically there was no income or very little income at that time,” he said.

“The expansion put significant pressure on the business and the floods had made that greater pressure. They just needed cash to keep them going, basically.”

Mr Christ said that by the end of 2011 he was no as worried.

“I’m quite tight, I like to not let go of my money and I was feeling a lot more comfortable I would see that money back at some stage,” he said.

“By that stage there had been a lot of cost cutting and costs had been reduced significantly.”

He said having Ms Baden-Clay return to the business was positive.

“For some reason it gave me great comfort to see Allison and Gerard working together to improve the business,” he said.

Mr Christ agreed he knew Nigel Baden-Clay and received a call from him the day Ms Baden-Clay went missing.

“Nigel contacted me on that morning and was quite distraught, one because Allison was missing but he was also very concerned about the line of questioning from police so, in his words, ‘they are going after him’,” he said.

“He said he told him ‘look Nigel, just worry about finding Allison’ and he said something to the effect of ‘I’m really concerned’.

“I gave Nigel, I went to school with a lawyer, and I gave Nigel his number, he’s a long-term friend of mine and I gave Nigel his number and said you contact him ... That person was Craig Thompson. He practises in Toowoomba.”

In re-examination by Crown prosecutor Danny Boyle Mr Christ said he noticed Ms Baden-Clay’s depression on and off since they returned from overseas to Brisbane.

He said he last saw Ms Baden-Clay just before Easter in 2012 during a school drop-off and she seemed “fine”.

Mr Christ said the return he expected to get on the loan was repayment of the \$90,000 principal and a \$90,000 interest repayment over an unspecified time.

“I believe at least from my perspective ... it was a verbal agreement, from my perspective I was expecting \$180,000 eventually, no time frame, no real pressure, but at some stage, over time to have that paid,” he said.

**12.35pm: The 60th witness in the trial is Peter Cranna, a director of finance and infrastructure at the Church of Christ in Queensland as well as an accountant by profession.**

He said he had known the Baden-Clay’s for a long time and was a member of their wedding party.

Mr Cranna said he had coffee with the accused every six or eight weeks and their families went camping together every year over the May long weekend.

“I’ve lent money to Gerard on a number of occasions,” he said.

He said he first loaned Baden-Clay \$45,000 in 2006 and it was repaid.

“I lent him money in, I think it was November, 2008 and that was repaid in December, 2008, I think for \$12,000,” he said.

Mr Cranna said the interest repayment was based on a line of credit mortgage rate and was variable.

He said he loaned him money in March, 2009 and December, 2010 and February, 2011.

He said he loaned him \$50,000 in March, 2009. He said he loaned the accused \$24,000 in December, 2010 and \$19,000 in February, 2011.

Mr Cranna said an amount of \$6000 was repaid in instalments in February, 2011.

He said he loaned Baden-Clay money as part of their friendship.

“I understood, he ran a successful business and businesses go in phases and as I understood it, he required capital to undertake the next stage of his business,” he said.

Mr Cranna said he only became interested in his business in February, 2011 along with others who became involved.

“We in essence formed a bit of an advisory group to Gerard to assist him in going forward with that stage of his business,” he said.

“It was requiring some cash, which we provided. The business itself was, shall we say, going through a difficult time from the floods and the general real estate market and we thought that we would be able to assist by looking at his cost structures and reducing them.”

He said the conditions of the real estate market following the floods meant the business cash flow was “tight”.

Mr Cranna said a written agreement was drafted but never signed.

“It was a loan, I put no term on the loan because as people operate businesses, you don’t know whether they are going to go into good times or not for a while, so I didn’t want to put that pressure on the business,” he said.

He said the interest rate was always a variable rate.

“My arrangement was different from the other guys,” he said.

He said Baden-Clay owed him approximately \$96,000 in April, 2012.

Mr Cranna said repayments made to him were made in early 2011 but not after that date.

He said one of Baden-Clay’s real estate partners made a payment to him of \$6000 between February and November, 2011.

Mr Cranna said he knew the business had a rent roll but did not know on what terms it was sold to the accused.

He said he did not know Toni McHugh and found out about the affair after Ms Baden-Clay went missing.

Mr Cranna said he was aware Ms Baden-Clay was involved in the business periodically.

“I recall she was involved early, around about when I first gave the loan in 2006, she had a marketing type role as I understood, and then I understand she got more involved towards the end of 2011,” he said.

“I don’t know her exact role, but given what her skill set is, I imagine it would be something to do with marketing.

In cross-examination by barrister Michael Byrne QC, for Baden-Clay, Mr Cranna said he became a chartered accountant in 1991.

He said he made no demand for repayment of the funds.

Mr Cranna said the number of sales in Baden-Clay’s business picked up to a better level after the floods.

He agreed the cash sales from real estate settled some time after the actual sale of the property.

“This was a long-term thing, we recognised the state of the real estate market at the time, we knew if we could tough it out over this period ... the profit would come,” he said.

He said he had known Baden-Clay for 22 years and in that time, had seen him sport facial hair.

“He absolutely did, we’ve had competitions with each other to see who could grow the most,” he said.

“He grew it quicker than me, he certainly entered Movember from time to time and, yes, he had more impressive facial hair than I did.”

**1.00pm: The 61st witness in the trial is forensic entomologist Professor James Frederick Wallman.**

He gave evidence to the Supreme Court in Brisbane via phone.

He said he looked at insects associated with criminal cases that typically involve examining the insects found with human remains.

Prof Wallman said he was asked by police to identify the specimens found with the body of Allison Baden-Clay to see if he could provide a minimum time since death.

He said he was also asked if there was any evidence of the body being submerged in Kholo Creek.

He agreed he received the specimens between 4.05pm and 4.50pm on April 30, 2012.

Prof Wallman said he received plastic containers holding a number of insect varieties, including fly eggs, a large number of maggots or larvae, adult flies and two adult beetles.

He said that in order to identify a time of death he first needed to identify the samples, because different types of flies had different rates of development.

“A fly has a life cycle involving the mother fly being attracted to a substance onto which she will be able to have her offspring sustained, either eggs or live maggots,” he said.

“In all of the flies in this case we are dealing with egg-laying flies. The eggs having been laid on the substrate will then start to develop and the eggs will hatch into a first stage maggot and the second stage into a third stage ...”

He said the third stage fly larvae would develop a hardened case or shell and would eventually break out of it as a fly.

“A number of species among those represented here had reached the third stage of growth,” he said.

“That implies that a certain amount of time had transpired, a longer amount of time indeed if there had only been first or second stage maggots present.

“The amount of time could only be determined accurately if we know the temperature of the conditions in which the maggots were growing.”

He said it implied at least three or four days would have elapsed if the temperature was high.

Prof Wallman said if the temperature had been lower, the fly growth would have slowed and more time would have passed.

He said the insect activity was consistent with Ms Baden-Clay having been dead for 11 days.

Prof Wallman said he could not reach a conclusion one way or another on whether the body had been submerged.

In cross-examination by barrister Michael Byrne QC, for Baden-Clay, Prof Wallman said submersion in water would affect the insects found on the body.

He agreed water could wash away insects that may have been present.

Prof Wallman agreed it was likely a body that was left exposed to the elements would be affected by insects and even birds.

He agreed the provision of extra weather data may have helped him determine the time of death by way of insect activity.

But he said he never received that information.

In re-examination by Crown prosecutor Danny Boyle, Prof Wallman said he did not believe sufficient time had lapsed for a complete life cycle to have taken place.

**1.10pm: The 62nd witness in the trial is retired Curtin University professor Dr Jacob John, who gave evidence via phone from Western Australia.**

He said he studied diatoms, which are tiny algae found in water.

Dr John said he had published widely on the study of diatoms.

He said he was provided a number of samples of water from Kholo Creek and Little Ugly Creek. He also examined a piece of bone, with marrow intact, as well as a piece of liver tissue, that belonged to Allison Baden-Clay.

Dr John said there was a lot of diatoms in the creek water sample.

“In fact, there was a bloom of diatoms, a bloom is a population explosion ... and in this case there was a bloom in almost all the water supplied to me,” he said.

He said diatoms would be found in the human body when a person swallowed water or drowned.

“Along with the water, the diatoms that are present there will also go in, and after the rupture of the blood vessels the water may be transported to the lymphatic system...,” he said.

“In a typical drowning case, diatoms are often quoted as being veritable evidence of drowning.”

Dr John said he could not find any diatoms in the liver or bone of Ms Baden-Clay.

“If she has drowned in the water I would definitely expect to see a couple of species of diatoms,” he said.

“When one swallows water, eventually all the diatoms also go in ... in this case I could not find any diatoms. My straight conclusion is that the limits of the technique I applied and the presence of this particular diatom bloom ... the subject concerned did not drown in Kholo Creek or anywhere else

“There was no evidence of drowning at all.”

In cross-examination by barrister Michael Byrne QC, for Baden-Clay, he agreed the best place to test for diatoms was in the stomach and the lungs.

**3.15pm: The 63rd witness in the trial is forensic pharmacologist and toxicologist Olaf Drummer, who gave evidence via phone. He said he looked at drugs and their biological effect on humans.**

Dr Drummer said he was provided a report on Allison Baden-Clay.

He said the presence of alcohol in her blood was reported to be of 0.095 per cent and the level of sertraline was 0.59 milligrams per kilogram. He said the stomach level of sertraline was .065mg/kg.

Dr Drummer said sertraline was an anti-depressant best known as Zoloft and normally used to treat depression and anxiety. He agreed it could be used for mood swings caused by menstrual tension. He said the usual dose was 50mg but could range up to 200mg.

Dr Drummer said if someone started to take the drug for the first time it could cause some people headache, dizziness, sedation, drowsiness and in some people, excitability or wakefulness.

He said patients who took the drug could develop a tolerance to the side-effects.

Dr Drummer said sertraline was relatively non-toxic but if misused, could cause side-effects.

He said a low dose of sertraline would be found in the blood at levels of between 0.1mg to 0.3mg.

Dr Drummer said the blood concentration of sertraline would increase after death.

“They tend to be quite variable, it occurs possibly within hours of death and depending on the way the body is positioned or where the blood is taken from...,” he said.

He said the drug’s half-life was the time it took for the body to remove half the drug from the blood.

He said metabolised sertraline, called “metabolite”, was the concentration of the drug once it had been metabolised by the body and excreted by the liver and kidneys.

Dr Drummer said there were people who had died as a result of overdosing on sertraline but it was rare.

He said overdoses had usually taken place in combination with other, more powerful drugs, or when a person was already unhealthy.

He said he could not find in his records any example of a healthy person overdosing purely from ingesting sertraline.

Dr Drummer said the level of alcohol found in Ms Baden-Clay’s body could be evidence of drinking before death but it could also be caused by fermentation in the decomposition process.

He said it was quite common to find alcohol concentrations in a body that had been exposed for a number of days.

Dr Drummer said the concentration of sertraline in Ms Baden-Clay’s body was “on the high side” of what might be considered the therapeutic norm but could also be attributed to decomposition.

He said the recalculation of the sertraline levels in Ms Baden-Clay’s stomach amounted back to the size of one tablet.

He said it could be evidence of a dose or diffusion from the walls of the stomach during the decomposition process.

“It’s certainly very unusual to find a person overdosing from sertraline without being affected by other drugs, as you’d usually see,” Dr Drummer said.

“If an overdose had occurred... I would expect much higher levels in the liver.

“The levels themselves in my view lead me to think the drug had no contribution to her death.”

In cross-examination by barrister Michael Byrne QC, for Baden-Clay, Dr Drummer agreed if the patient was on a dose of 100mg of sertraline a day he would expect to see levels in the blood of 0.1mg/L.

He agreed side-effects could vary between patients depending on sertraline dosage.

Dr Drummer agreed possible side-effects were agitation, anxiety, paranoia and abnormal thinking.

“They are not common side-effects but they have been reported,” he said.

He agreed Sertraline was an artificial drug designed to alter the brain chemistry to improve mood.

Dr Drummer accepted brain chemistry was a complex science and there would be variations on the effect from person to person.

He said he had studied the suicide rate of persons on anti-depressants.

“There has been a link with people having a higher rate of intentional death or suicide... there’s no clear association between the source of the drug like Sertraline and an increased risk of suicide, passé,” he said.

He said serotonin syndrome was a situation where there were excessive or elevated levels of serotonin in the brain chemistry.

Dr Drummer agreed side-effects included agitation and delirium in severe cases.

He agreed the levels of sertraline in Ms Baden-Clay’s blood were elevated.

Dr Drummer agreed he said that was possibly as a result of post-mortem redistribution.

But he accepted some studies had found there was no change in post-mortem sertraline concentration levels.

Dr Drummer agreed 0.59mg/kg was a high reading of sertraline but insisted it was likely because the blood sample was collected adjacent to the liver and was likely affected by the re-distribution of the drug from the liver back into the blood stream around it.

“One does get changes after death and some tissues change in decomposition,” he said.

He agreed it was possible from examining the contents of the stomach an overdose could not be excluded as a cause of death but he found it was “unlikely”

“My view is it would be unlikely to have caused her death but I couldn’t exclude that as a possibility,” he said.

**3.40pm: The 64th witness in the trial is hydrologist and engineer Martin Giles.**

He said he was asked by police to produce a report on flood levels at Kholo Creek on September 13, 2012.

Mr Giles said a survey of Kholo Creek was undertaken in July, 2012.

He said the bridge at Kholo Creek was 11.5m above sea level.

Mr Giles said there had been a variation in the water levels of Brisbane River over time.

He said he attended Kholo Creek and was shown the location of the body on May 22, 2012.

“The area in particular, there was a depression in the ground on the bank, where the body had been,” he said.

The jury was shown a photo of a grey-coloured depression on the bank of Kholo Creek.

He said he visited the bridge again and saw the same depression, largely unchanged, on August 21, 2012.

He said the bridge was approximately 120m from the mouth of Kholo Creek.

He said Kholo Creek was tidal and there was a tidal range of roughly 2m.

Mr Giles said Kholo Creek experienced high tide approximately 16 minutes after the high tide at the Moggill gauge.

He said there was between 80mm and 100mm of rainfall on 27 and 28 April, 2012.

Mr Giles said he calculated the catchment run-off by developing a hydrological model of the catchment to determine the likely run-off at the Kholo Creek Bridge.

He said the water would have peaked at around 1.5m.

Mr Giles said he did not believe the water level would be sufficient to move the body to the position where it was found on the bank.

In cross-examination by barrister Michael Byrne QC, for Baden-Clay, Mr Giles agreed his opinion was based on charts and material that he had gathered, rather than observations of the water levels themselves.

He agreed large branches with various protrusions were washed up and down the creek.

Mr Giles agreed there was no stream gauge in Kholo Creek so it was not possible to calculate the exact run-off caused by rainfall.

He agreed he visited the creek on two occasions and the body was not present.

Mr Giles said it was possible a mark on the bank beneath the bridge, which showed it was gouged out to a degree, was the high tide mark.

He agreed it was above the location of the body but said he did not do any investigations into whether it was the high watermark line.

Mr Giles agreed he based his calculations on maps and not measurements he made of the sites.

**4.30pm: The 65th witness in the trial is botanist Dr Gordon Guymer.**

He said he was responsible for a collection of 830,000 specimens at the Queensland herbarium based at the botanic gardens.

Dr Guymer said he received seven plant specimens from police that were found on the body of Allison Baden-Clay.

He told the jury he found seven leaves from the Crepe Myrtle in the hair.

He said the second plant was a “Cat’s Claw Creeper” and there were three leaflets.

Dr Guymer said there was a Fishbone Fern entwined in the hair.

He said he examined a Lilly Pilly leaf and likely Grey Gum or Red Gum eucalypt leaves and bark.

Dr Guymer said he also found Chinese Elm entwined in the hair.

He said the seven leaves of the crepe myrtle were likely to have been fallen leaves, based on their condition and the way they had fragmented.

He said the cat’s claw creeper leaf looked as though it had been pulled from the plant.

“The Cat’s claw creeper is an introduced environmental leaf, it’s evergreen... flowers in September, October in Brisbane, large yellow flowers,” he said.

Dr Guymer said seven fishbone fern leaflets were likely to have been both fallen and fresh based on the age and condition of the leaves.

The jury was shown a photograph of eucalypt leaves and bark that was found.

He said they were quite fragmented and he had “no doubt” they were fallen leaves.

Dr Guymer said the Chinese Elm was also a common weed found in Brisbane.

“It looks to me like it is a fallen leaf given the fragmentation it has got and the degradation it has got,” he said.

He said the final leaf, from the Lilly Pilly, was a native rainforest species and this particular variety had leaves that were 4cm long.

“This looks to me like this was a live leaf or a recently fallen leaf,” he said.

Dr Guymer agreed he was shown other plant species by police, including grass and leaf fragments from a car, including the foot well, tyre tread and rear passenger side.

He said plants identified included melaleuca leaves and others.

Dr Guymer said he did a botanical survey of the area 50m below and above the Kholo Creek bridge and identified Chinese Elm and eucalypts in the distance.

He said he had a pair of binoculars with him and he walked around the creek, towards the Brisbane River and up towards Wirrabarra Rd and Little Ugly Creek.

He said he found none of the plants in that area.

Dr Guymer said he went to the scout camp off Bunya St but was also unable to find the plant species found on the body.

He told the court he also went to 593 Brookfield Rd at Brookfield on July 13, 2012.

“I observed from the property boundary and looked into the property,” he said.

The jury was shown a photo of the Baden-Clay house from the driveway.

Dr Guymer identified a Crepe Myrtle in the front yard and in another photo, Crepe Myrtle surrounding the boundary of the driveway as well as Fishbone Fern.

He also pointed out a Cat’s Claw Creeper plant.

Dr Guymer said he took a sample from the Crepe Myrtle and grew some cuttings from it.

He pointed out a Lilly Pilly in the garden near to the car port and driveway concreted area.

Dr Guymer pointed out a Cat’s Claw Creeper plant dangling down a steel post in the car port as well as some growing along the concrete in the same area.

The jury was shown a photo of the rear patio of the Baden-Clay house.

He said there was Fishbone Fern in the foreground and more Crepe Myrtles.

He said some leaf litter on the bricked area of the rear patio was made up of Crepe Myrtle leaves but also included some Fishbone Fern leaves.

Dr Guymer said there was also Cat’s Claw Creeper climbing the Crepe Myrtle in the rear patio area.

He said he found a number of Chinese Elm plants on the property, including one at the rear patio area.

Dr Guymer said the neighbouring church near to the Baden-Clay home had a number of Grey Gums and Blue Gums on it, roughly 15 to 20m away.

He said some of the photos were taken on July 19, 2012.

Dr Guymer said the four species found in Ms Baden-Clay's hair were not located at Kholo Creek.

***The trial adjourned until 10am Wednesday.***