NO. COA12-926 **TENTH DISTRICT**

NORTH CAROLINA COURT OF APPEALS

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STATE OF NORTH CAROLINA	)	
	)	
v.	)	**From Wake**
	)	
BRADLEY GRAHAM COOPER	)	

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BRIEF FOR THE STATE

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STATEMENT OF THE FACTS

Defendant strangled his wife in the early morning hours of Saturday 12 July 2008 and dumped her body, naked but for a sports bra, on the bank of a retention pond in an unfinished subdivision within a mile and a half of their house. He told everyone she had gone running at 7 a.m. and had not returned. Three days into a massive manhunt by hundreds of people, Nancy's body was found. She had suffered a fractured hyoid bone in her neck and had died from asphyxiation. Defendant was found guilty upon a wealth of evidence that featured: his attempts to misdirect police; his many lies to police on numerous critical matters; simple pieces of physical circumstantial evidence such as the changes to his garage and car trunk; his manipulation of telephones to support his story that Nancy made it through the night alive and went running in the morning; evidence of his computer activity at various times; and various revealing acts and statements.

Defendant misdirected police with, e.g., the jogging story, which was countered by a wealth of evidence; with his attempt to

hide and then downplay his shocking months-long behavior towards Nancy, the acrimony of their impending divorce, and his control over her finances, communication, and travel; and with his leading detectives away from the dress she wore the night she died, which enabled him to destroy its evidentiary value. (6526, 6601)

Defendant told many demonstrable lies, such as his statement to police initially that he did not know how to access the call history on his work cell phone (6590), an elementary task for a Cisco expert who lived on his cell phone (6590) and whose job it was to test the newest telephone and internet technology (5440).

The simple physical evidence included the facts that Nancy's running shoes were still in the house (3886-87); the autopsy finding that her stomach contained a piece of onion, which would have cleared the stomach before 6 a.m. had she actually lived that long (2498-500, 3200-13); the newly cleaned-out garage, which enabled a car to be pulled into it for the first time in years (2221, 4714, 4777); the freshly vacuumed trunk of his car, and the rest of the car being messy (6526), his false story about why and how he cleaned the trunk (3921, 4581, 4586, 6594); and the license plate on his car hanging by a single screw (2872, 3027, 3565).

Defendant manipulated telephones by, e.g., selectively deleting his cell phone's call history before showing it to police, which became apparent when the AT&T records were investigated (3961-4013); and by automating a telephone call from the house to his cell phone at 6:40 a.m. when he was out in public and Nancy was already dead (5476-5544, 5453-59, 5573).

As to computer activity, defendant set up an automatic system to intercept and read all of Nancy's personal and confidential emails, including those from her divorce lawyer. (5944-83) He also conducted a Google map search, one day before the murder, of the area where Nancy's body was found (6049, 6268-311, 6353); his defense to this requiring that a hacker would have somehow known that defendant was gone from the house but that the Cisco computer assigned to him was still on during the police search on 15-16 July. Such person would have had to then park outside his house within his wireless network, yet somehow evade the notice of all law enforcement, media, and neighbors; then expertly hack in by a process of trial and error with various tools; then fabricate some 500 files representing accurate map searches of the precise area where the body was found, and place them onto defendant's computer, assigning to them all a retroactive time at which the hacker somehow knew defendant was logged onto his computer at work on 11 July; then assign to each file a false but plausible time sequentially yet placing them in multiple folders in the proprietary way his system required; and all while leaving no traces behind and evading all notice. (6377, 6437-41, R 456-61)

Defendant's behavior was also important evidence, e.g., his subconscious behavior as he walked back into the house with first responding Officer Hayes; his irritation with police, and his lethargy, when he should have been full of adrenaline and doing whatever he could to help (2582, 6478); his notedly theatrical performance, his inability to look Nancy's friends and family in

the eyes (2456-57, 2481, 2607, 3407, 4678); and his failure to go to any memorial or funeral service. (3407, 2229-32, 4686)

Saturday 12 July 2008. The case began as a missing person investigation. Brett and Jessica Adam, who were expecting Nancy to be at their house to paint their dining room at 8 a.m. on Saturday morning, 12 July 2008, became worried after she did not arrive. (2561-68, 8431-34) Jessica tried Nancy's cell phone at 8:45, no answer; she then called Nancy's house at 9:30 a.m. Defendant answered and said Nancy went running with Carey. This sounded odd to Jessica for two reasons — she and Nancy had talked in person and made the plans to paint just the previous day; and Nancy would have told her she was running with Carey Clark since all three of them were registered for a race together. (2561, 2566-68) Jessica called some friends and neighbors; then, more alarmed, some hospitals; then, around 2:30 p.m., the non-emergency Cary Police Department number. (2562-81, 8434-35)

Carey Clark testified that Nancy did not run with her on Saturday 12 July because she had plans to paint at the Adam's house. (2675-76) Other people were also aware of and testified to Nancy's plans to paint that morning. (2341, 4662)

Officer Hayes of the Cary Police arrived in the neighborhood and talked to Jessica Adam around 2:30 p.m. Defendant was not home; Hayes called his cell phone number at 2:36, but it went to voicemail and so he left a message asking defendant to call him and meet him at the house. Defendant did not call Hayes back. It was later learned from phone records that defendant accessed this

voicemail message immediately, at 2:36, yet did not call Hayes back, despite allegedly being out looking for Nancy. (2698, 4169) Hayes called defendant again at 3 p.m.; and they arranged to meet at the house. (2698) Some neighbors had gathered in the street.

When defendant arrived home a little after 3 p.m., he had his head down, his cap on, and did not make eye contact or seek conversation with any of the friends or neighbors. (2581) This was a universal description of defendant's demeanor during this day and the next several days. (2456-57, 2582, 3507, 4678) Officer Hayes suggested that they go inside and take a look around. (2699-701)

Hayes followed defendant inside the front door; but defendant, instead of calling Nancy's name or checking to see if she had come home (he had been out supposedly searching for her for the last few hours), took an immediate left and went to sit down in the dining room. Hayes had to say to defendant, "Let's check the house one time." And then defendant said, "Oh, yeah," and quickly turned and went up the stairs calling Nancy's name several times. (2701-02)

Detectives received information, not from defendant at first but from others, that he and Nancy were going through marital problems. While other members of law enforcement were radioing and calling and physically searching to try to find Nancy, detectives went to the house to gather all the information they could in order to narrow down the many possibilities, including Nancy's keeping herself away from home voluntarily. (3904, 6487)

Two detectives noticed that defendant had a band-aid around the tip of the middle finger of his left hand. (2757, 6581) They

noted red markings on the back of his neck; not cuts or bruises, but red rub marks, in a place where defendant could not see by looking in a mirror. (2778, 6479-81, 6631, 6800) Defendant's demeanor was markedly unusual – he seemed tired almost to the point of lethargy (4671, 6478), whereas in most missing person cases the person is "hyped up, moving around" to the degree that officers have to stop them from moving and calm them down. (6478, 4678)

Defendant gave them on 12 July the following details of the day, many of which were exposed later as lies:

Defendant said that he and Nancy both woke up around 4 a.m. because their 2-year old, Katie, was fussy. Defendant eventually went to the store to get her some milk because they were out. When he got back Nancy was doing laundry, and she sent him back out to the store for detergent. When he got back the second time he took Katie upstairs to his office so that he could get on the computer and get some work done, giving Katie some juice and hoping she would quiet down and go back to sleep. Defendant said it was about 7 a.m. when Nancy yelled up to him for a certain shirt, and then yelled, "Never mind, I got it;" and then he heard the door close. (2705-06) Bella, their 4 year-old, slept until 8:30. Defendant offered no reason why Nancy would be yelling when Katie was trying to get back to sleep and Bella was still sleeping. (3910)

Detective Dismukes asked defendant what Nancy normally wore when running; and defendant said a sports bra, sleeveless running shirt and running shorts or skort, and Saucony shoes. (2758-59)

Defendant said that while he was on the way to the store the

second time for detergent, Nancy called him and asked him to get some green juice for Bella for when she woke up. (3953, 3907, 6482)

Defendant told them he had a tennis match at 9 a.m. with Mike Hiller, which Nancy knew about; and that he had to call Mike and initially push back, and then cancel, the match since Nancy wasn't home. It turned out to be true that Hiller was meeting defendant at 9:30 for tennis and that Nancy knew about it. (8026-31)

Defendant told detectives he could not remember what he gave the girls for breakfast. They took note of this, since defendant had just said he bought some green juice for Bella. (4587) It was learned later that "Naked Green Machine" juice was a favorite of defendant's; he bought it 12 times between 16 July and 27 October 2008, that is, after the girls were in Canada. (2890, 5130)

After that, he told detectives he cleaned the house from 9 a.m. to 1 p.m. — he said he vacuumed, did laundry, scrubbed the floors, and picked up. (3910, 3954) The detectives noted Clorox wipes throughout the house and a bucket on the kitchen counter with vinegar. (3160) Yet they also noted that the house was very messy, toys and stuffed animals and sippy cups were everywhere, there was ketchup spatter and other mess in the kitchen (6501-06), a large rug was rolled up but had debris on it, and clothes were on the floor and spilling out of the laundry room. (2758, 6502) It was later learned that defendant and Nancy were essentially just cohabiting at that point, like unfriendly house-mates. Nancy had given up on trying to make the marriage work and had started the divorce process; but she was staying in the house, until a

separation agreement could be signed, both for the sake of the girls and because defendant was their parent too (5236), and also because she had no other resources or options, as defendant had taken the girls' passports. (2167, 5385-89, 5647) Before January 2008, Nancy did all the housework and defendant did no laundry. (2400, 2559, 5185, 5886-88). Defendant was never known to do Nancy's laundry, at all. (2559, 4672, 5185) With the acrimony of the past months, and Nancy supposedly having just caused defendant to miss his tennis match, it was noted as odd that defendant would suddenly be doing all this housework. The areas that detectives observed as clean were some places that defendant did not even say to detectives he had cleaned: the bathrooms, where Tilex and other cleaners were noted (2703); and the washer and dryer, which were "extremely clean." (3468) Detectives noted that defendant's room and his sheets and pillow cases were very dirty (6514-19), as they later learned was typical for him. (2555, 4646) The Cooper's real estate agent testified that when they were talking in March 2008 about putting their house on the market, he noted that defendant's room looked "worse than the worst college dorm room would look." (4907)

Defendant said that after cleaning from 9 a.m. to 1 p.m. he took the girls and went out driving around the places where Nancy ran and where he thought she might be.

Defendant did not initially tell detectives on 12 July that he and Nancy were in the midst of a divorce and that they had fought the previous day and previous week. (2767) Then when specifically

asked about the state of their marriage, he did not reveal the bitterness of the past months — while he said things were "not so good," he also said that things were "normal" between them and they were getting along, despite him sleeping in the guest room; and that they "had not discussed divorce for the past two months." (2783, 6491) He said he and Nancy had not been intimate for two years; but things were normal. (6493-94) Defendant did not tell them that by March 2008 they agreed that Nancy would move back to Canada with the girls, and that defendant had even rented a truck and made preparations for their move (5690); but then, in mid-April after he received a draft separation agreement from her lawyer covering the financial part, i.e., child support and other payments, he called off the move and took control of the girls' passports. (3400, 4709, 4739, 5119, 5377-86) He did not tell detectives that the draft separation agreement provided that defendant would pay all premiums to keep his life insurance policy in effect and that it required him to designate Nancy as his sole primary beneficiary "for so long as wife is living." (5415)

Nor did defendant tell detectives that Nancy was furious with him that very week and told him she hated him numerous times (2236-37). Defendant did not tell them that in February or March he had cut off her credit card and bank accounts. He did not tell them initially that he was giving Nancy $300/week in cash, which was to cover family groceries and her needs, and that he had refused to give her this money that week because he found out she was making money by painting at friends' houses. (4659) He did not tell

detectives that he would follow her to the gas station so she could not get cash back and could only get as much gasoline as her planned needs would require. (2285, 2382, 2495, 5116) He did not say that at the dinner party/cookout the evening before, Friday 11 July, he and Nancy had a public fight, which was unusual for them (2445, 4328) and in which she had ridiculed him in front of everybody for his lack of parenting skills for not being able to figure out what Katie wanted to eat. (2236, 2445, 6601)

Detectives also later learned that Nancy had left an urgent voicemail message for her real estate agent on Thursday 10 July 2008, saying, "I need to have a place as soon as possible," and she was including "apartments, townhomes, anything that would be quick to get into." (4910-12)

Defendant did not tell them that within the last couple weeks of her life, Nancy was "desperate to get a separation agreement in place so that she could go back home." (7427) He did not tell them about the time after mid-April when ladies at the girls' daycare saw him blocking Nancy's car with his car, both girls crying, defendant with Katie in his arms while yelling at Nancy, "I don't have to f-ing listen to you any more" (5256-68), and saying "fuck you" to her in front of the girls. (5279)

The detectives asked defendant if they could photograph the interior of the house since this was a missing person case and it may give them some clues; and defendant agreed. These initial photos turned out to be very important since they revealed key facts that detectives did not even know at the time would be

relevant, such as the green dress Nancy had worn on Friday 11 July being there all along, draped over a dirty-clothes basket (4347-48, 6509); and the dust ring in a cabinet revealing that something had been removed recently. (8624, St.'s Exh. 295, 3711-12)

The Coopers had all been across the street at the Duncan's house the previous night, Friday 11 July, for a cookout/dinner party. Defendant left early, at about 8:30 p.m. and put the girls to bed. He told detectives he laid down on the bed with them and fell asleep about 9:30 p.m. (6488-89, 6596), until being woken up when Nancy poked her head in around midnight. He said he saw her silhouette in the doorway. (6488, 6498, 6743) He then went back to sleep, until being awakened by Katie around 4 a.m. Detectives later learned this was all a lie. (6743, 6596-97) FBI agents analyzed the hard drive of defendants' laptop and learned from both the screen lock/unlocks with his password and from his internet history that defendant was up and active on the internet on the night of Friday 11 July 2008 at 10:05, 10:17, 10:39, 10:45, 11:17, 11:32, 11:49, and 12 midnight. (6050-53, 6225-31) Then there was no more computer activity until 12 July at 6:53 a.m. (6231)

Defendant grew increasingly irritated with answering questions and would periodically ask what the detectives were doing to find his wife. (2775-77) They answered that there were bicycle patrols out on trails and greenways, that a K-9 unit was coming, and that getting information from him would help them find her. (2785-86)

Det. Young then arrived at 8 p.m. and asked defendant for an article of clothing that Nancy had worn most recently for the

search dog. Defendant said she had worn to the party a "blue summer dress" with "thin straps." (3875) He said he didn't know where it was; and so he and two detectives spent some time looking through the whole house for it. Defendant said he was "quite certain" it was blue with thin straps. (3879) Then he suddenly left the house, and returned with Diana Duncan, who said the dress was black. Duncan testified at trial that defendant came over and said, "Help me find the black dress she was wearing." Duncan felt that he did this on purpose, to replace her memory. (2214, 2280)

So after the detectives had searched without success for a blue or black dress for some time, Young asked defendant for, as a second-best item for the K-9, a shoe that Nancy had worn over and over. (2740) Defendant said Nancy usually wore a pair of Saucony running shoes; and he took them to the laundry room and said she usually wore that pair. (3887) Later, Carey Clark confirmed this and recognized the blue Sauconys as the shoes Nancy had been wearing during the previous few months. (2680, 4214-16) Nancy's father, a runner himself, also knew that Nancy had fairly recently switched from Asics to Sauconys, and knew she ran in Sauconys on vacation just the week before her murder. (5702, 5758-60)

The dog found no scent trail outside. It cast about in the front yard and tried to push into the house three times. (2740-43)

Sunday 13 July 2008. On Sunday, while hundreds of people were out looking for Nancy, two detectives met with defendant to update him on the missing person operation. Then, again trying to find out whether Nancy might have been voluntarily keeping herself away,

they asked defendant about the state of the marriage. Defendant said he and Nancy were "attempting to reconcile" after she learned of him being unfaithful for one night with her friend Heather. (3903, 4081) Defendant said that within the last two months things had improved, and he did not think Nancy was going to go though with the divorce. (3904) Detectives learned later that there was no chance Nancy would reconcile (3388, 5385, 5672); and that defendant's affair with Heather Metour was not a one-night thing, but had gone on for some time. (3388, 5672, 5901)

Det. Daniels then asked defendant about the dress Nancy had worn to the dinner party. Defendant at this point said he had located the "green dress" and went upstairs to get it. Det. Young was shocked when defendant said "green dress," as he had spent a good deal of time the day before looking for a blue dress with thin straps or a black dress. Further, when defendant brought down a patterned green dress, it had wide material over the shoulders, not thin straps. What is more, defendant then told the detectives that he had washed the green dress the previous day, i.e., Saturday, because Nancy had spilled something on it. (6525) Young was "taken aback." (3917-18, 4350) If defendant had washed a green dress Saturday morning, he would not have failed to remember it later; and if he washed it after the dress-hunt, he had washed a dress whose scent could help find his missing wife. (6526, 6601)

More strangeness occurred when Daniels asked defendant about the status of the family's passports. Defendant said his and Katie's were at his office at Cisco, and Nancy's and Bella's were

upstairs in the home office. Daniels asked if he could get the ones from upstairs. When defendant returned he was holding his own and Katie's; then he said it was Bella's that was at his office. (3926-27) Then he told the detectives, as if by way of explanation, that 6 months before, he and Nancy had divided up the girls' passports "to prevent either from taking the girls" out of the country. (3927-28) Daniels, noting what this revealed about their relationship, asked defendant why it was, then, that he had both girls' passports in his possession? Defendant's response was that he offered one to Nancy, but she would not take it. (3928) It was learned later that Nancy had been sleeping with her car key either in her pocket or hidden (5196), and was keeping the girls' passports and other important legal documents locked in her car (4651); and that when the family went to an outdoor music festival one day in the Spring, defendant tricked her and took the passports. She later called her sister in tears saying, "I messed up. I gave him the key to go get something out of my car and the passports are gone." (4651, 5119, 5698)

Monday 14 July 2008. Det. Young met with defendant in the house and asked him what Nancy's shoe size was. Defendant went and got the two sets of running shoes which Young had noted on the shelf in the laundry room on Saturday; defendant said the Asics were Nancy's "old pair of running shoes," and the Sauconys were her "new running shoes." Defendant did not mention any other running shoes. (3943-44) In addition, there was no space or void on the laundry room shelf for any additional pair of shoes. (3959)

Detectives asked about Nancy's car keys. Defendant said that when she went for her run, she left her keys to her SUV on the foyer table. (3945) It was learned later from Nancy's recent running partner Carey Clark that it was Nancy's habit to run with her keys on her person; she held them usually in her hand and sometimes in a pocket. (2673-76)

Det. Daniels asked about credit cards and how finances were handled, with Nancy not being able to work or have income in the U.S. Defendant responded in frustrated, sarcastic tones that Nancy was a shopaholic and he had removed her access to credit card accounts and was giving her $300 per week on Friday or Saturday. (3947-49) The detectives noted this and other comments defendant made revealing grievances and other points of contention that defendant had with Nancy. (3920-22, 3948) Defendant did not mention at this point that that very week, he had refused to give Nancy the $300 because she was earning money by painting at a friend's house, and that Nancy hated him for it. (2186, 2236-37)

The detectives asked defendant if Nancy believed or thought he had additional affairs other than with Heather. Defendant said Nancy was always suspicious of a March 2007 trip he took to Paris as part of his MBA studies. (3949) It was later learned that defendant in fact had an amorous relationship with Celine Busson, a 23 year-old student in Paris whom he met on that trip. Witnesses testified she would come to his dorm room; they would hold hands; he took his wedding ring off and seemed to contemplate not going home to his family (5346-48, 5928); he had a changed personality

when he returned – he bought a guitar and French language discs (5666); he looked for jobs in France; he created a telephone number through his expertise with VOIP telephony (voice over internet protocol) that Celine could use to reach his cell phone by simply dialing a local Paris number (5310); and he corresponded with her and they signed their messages with "bisous" (5907-20).

They asked defendant how Nancy found out about the affair with Heather. Defendant said that Heather herself told Nancy, but that he denied it up until 6 months ago, at which time he "decided to sit down with Nancy and clear the air." (3952) It was later learned that what likely motivated him more was that Heather was being sued by a woman, Kenda Peterson, for breaking up Kenda's marriage; and defendant's own affair with Heather was likely to come out in that lawsuit. (5189)

Daniels asked what happened earlier in the day on Friday 11 July. Defendant said he left for work late that day, at 10 a.m., because he had been "helping Nancy with the girls." Not true. Surveillance video showed him buying a 9' x 12' plastic dropcloth in Lowes with cash at 9:30 a.m. on 11 July. (4115-20, 4591)

Daniels and Young then asked about Nancy calling him as he was on his way to the store, and asked if he would show them his call history on his phone. Defendant had told Daniels in a prior interview that he did not know how to work his Cisco-issued cell phone to find his call history; and he told him now that since then, a friend had taught him how to operate it. (3961-62, 6590) While it turned out to be true that defendant did indeed ask a man

he went searching with earlier on Monday how to find the call history on his phone, the man thought it was a ridiculous question — he told defendant all you have to do is press the green button, the one with a picture of a phone on it. (4798, 4824) Defendant, it came to be known, "lived on his cell phone." (6590) It was his job to test new phone technology before it was available to the rest of the world; and he had achieved a very high certification, CCIE, the highest level at Cisco, in voice over internet technology; he was one of 152 people in the world with his expertise (5896); he was the "Lead Alpha Engineer" and team leader for the group that tested new phone products. (4187, 5440, 5897)

It was also learned later that not only did defendant have the technical expertise to automate a phone call, i.e., make a call come from a house line to a cell phone at a certain time (5476-5544), which operation could even be done remotely from a cell phone (5485), but also, he had in his possession within the past six months the special pieces of equipment that were required to do this: a 3825 router, and a small FXO interface card. (5453-59, 5573) Defendant had installed Cisco VOIP phones in the house in early 2008. (5675) State's Exhibit 587 was a receipt for an internal order within Cisco, to Brad Cooper, for an FXO interface card. (5471, 5933) Inventory records and an email trail with a Cisco coworker revealed that defendant borrowed an expensive 3825 router and was using it at his house on 22 January 2008; and further, that he never returned it. (8392-411) That router, last known to be in use at defendant's house in early 2008, was never

found; and defendant presented no evidence of where it went. Nor was the FXO card ever found or its absence explained. The only thing found at the house, and which was also never explained, was an electronics cabinet with a dust-ring on an empty shelf, showing that an object had been removed recently. (8624, 3711-12)

So when defendant was asked about his call history, he showed Det. Daniels on his cell phone a call from the house at 6:40 a.m. on Saturday 12 July. He also let Det. Young look at his phone and go through his call history; and Young noted some other calls that defendant had never mentioned: a missed call from the house to the cell phone at 6:34 a.m., a time when, from defendant's account, he was in the house; and a call from his cell phone to his voicemail at 6:37 a.m. Later investigation into defendant's AT&T records showed a series of even more calls that defendant had apparently deleted from his call history before he showed it to Daniels and Young: a 6:05 a.m. call, believed to be defendant testing his automated-call system (6775-78); and calls to his voicemail at 6:45 and at 6:47 (4000-17, 4522, 4574), also believed to be part of his plan to automate a call from the house.

Defendant was asked about cleaning his car. He stated that he had spilled gasoline in his trunk on 5 July, when Nancy and the girls were on vacation. He said he "vacuumed" up the gasoline spill out of his trunk. (3921, 4581, 4586, 6594) Young and Daniels asked defendant if they could look in the vehicles. Defendant's car was parked in the garage now (3967), despite the Coopers habitually parking both their cars on the driveway. (2223, 2463,

2604) Many neighbors and friends testified that the Cooper's garage, for the past two years, had been so full of boxes and toy vehicles and playthings for the girls that no car could be parked in it. (2463, 2604, 4913, 5107) The exterminator who came to the house on Tuesday, 8 July, testified that he had been working for the Coopers for seven years, and that for the previous two years, consistently, the garage was so full that it was not possible to pull a car into it. It was the same on 8 July 2008. (4849-86)

Young and Daniels looked for any signs of a gasoline spill in the trunk, but saw no stain and smelled no odor of gasoline. The trunk was completely empty. (4049) The cleanness and emptiness of the trunk alone was also unusual, as the rest of the car had lots of papers and things in it. (6528, 6639) Further, defendant was a serious triathlete who trained and worked out often; and there was evidence that his trunk usually contained things like workout gear, duffel bags, water bottles, clothing, and kid's toys. (5117, 6594)

A woman's body was found at 7 p.m. on Monday 14 July, on a muddy bank on Fielding Drive. (2064-78, 2102) CCBI agents examined footprints and tire tracks, took fingernail scrapings, tried to take trace tapings of the body, etc. As to the sports bra, "one of the front panels over her breast was kind of flipped up, and then the back of it was rolled under, from the bottom, up." (3304-07) Dr. Teresa Hackeling testified that sports bras are tight and difficult to get on; and that they roll up in the back when being pulled on, which is very uncomfortable. The bra on the body was consistent with "when you put the jog bra on, it will roll up and

tuck under like that, and then you usually pull it down and straighten it out." (5214-18) That is, this bra had been pulled onto the body, and was never adjusted by the runner herself.

The long hair was without a ponytail or bands; Nancy habitually put her hair in a ponytail when going running. (4704)

No identifying tread could be discerned in the tire tracks. The most visible impressions were 3'11" apart, closer together than a small sedan. But the CCBI agents "could not even be sure those tracks were from the same car." (3300, 3317, 3368-69) As to shoeprint impressions on the bank, no tread was discernible since they were eroded out and flooded from rain. Shoe size could not be determined since they were distorted from slippage. (3367-68)

Detectives went to see defendant at 10:05 p.m. Daniels told him a body had been found on Fielding Drive and that there was no identity yet. Defendant rubbed his forehead and held his head with his other hand and groaned. He looked like he was trying to cry. His reaction seemed forced, not natural. He kept groaning, and said, "It can't be her, it just can't." It did not seem sincere to the detectives. (2807-08, 6535) Defendant did not ask about the condition of the body or ask to be taken to it to help i.d. it. Daniels asked defendant what she had worn. Defendant said a "black and red sports bra;" and then he just stopped and did not finish the sentence. It seemed strange to the detectives that he just stopped talking and did not ever finish the sentence. (2804, 6534) Daniels and Young later received word that the body was in fact wearing only a black and red sports bra. (2804-06)

Tuesday 15 July 2008. By 2:30 p.m. on Tuesday the body was identified as Nancy from dental records. The Medical Examiner found a fracture of the hyoid bone in the neck along with pinpoint hemorrhaging in the larynx; and no other damage to head or body other than insect activity. The cause and manner of death was strangulation. (3186-92) Time of death was the early morning hours of 12 July, plus or minus a fairly wide period of hours. (3193) In her system was caffeine (3195), which persists for a long time and was consistent with her having been seen drinking a Diet Coke midday on Friday 11 July. (4660, 4842-47)

Almost all of her stomach's contents had cleared to the small intestine; but her stomach still contained some reddish fluid and one small fragment of onion. (3190) She had red wine to drink at the party on Friday 11 July; and had eaten, among other things, avocado salad with chopped onions in it. (2498-500, 7982, 2191, 2342) The onion would have cleared the stomach had she lived for 6 hours after she ate it, as the ME testified that a large meal takes 4-6 hours to clear the stomach. (3200, 3206, 3211-13) No evidence was presented that Nancy ate a fragment of onion between 1 a.m. and 7 a.m. The fact that her stomach was mostly empty but for the onion was consistent with either having vomited up some or all of the stomach's contents while being strangled (3200, 3211-13), or having eaten a meal at, hypothetically, 7 p.m., and then having been killed at 1 a.m. (3213)

After the body was identified, the case became a homicide case; and from the interviews and defendant's own statements,

detectives believed that Nancy might have been killed in the house and that that there might be things in the house that would help them. (2815-22) Det. Daniels notified defendant that the body had now been identified as Nancy; and received his verbal consent to search the house. When defendant was shown a written consent to search form to read and sign, he would not sign it and said he wanted a lawyer. Daniels then left, saying he would be obtaining a search warrant, leaving a patrol officer with defendant. (2822-25, 6540) Defendant went upstairs, saying he was going to take a shower (4933); and when the patrol officer went up, defendant was on his phone calling attorneys and typing on his computer. (4935) The officer noted a gallon jug of vinegar by the garden tub in the master bathroom and a spray bottle that said bleach on it on the counter. (4954) Defendant said at 4:50 p.m. that he was not going to the 5 p.m. news conference about the death and identification of Nancy because he had an appointment. (4940)

Wednesday 16 July 2008. Pursuant to the search warrant, investigators searched the house, seized and towed defendant's car for examination, and seized two laptop computers and various hard drives and components. As to the front-loading washer and dryer, a CCBI agent testified that they were extremely clean. Where dust was expected, even around the doors, there was none. (3523)

As to defendant's car, it was again noted that the trunk was entirely empty and clean and there were no odors coming from it, and no odor of gasoline (3537-42, 3564); and that the rest of the car was nowhere near as clean as the trunk was. (6526) The carpet

liner in the trunk had streaks across it about 4-5 inches wide, as if from being vacuumed. (3559-68) The shop-vac itself was in the garage, stacked on top of all the toy vehicles. (3475)

The car's license plate was held on by a single screw, and the plate itself was a little slanted. (2872, 3565) This suggested the possibility that defendant removed his license plate at some point recently, making the vehicle harder to identify. (3027)

Subsequent investigation. Harris Teeter surveillance video showed defendant in the store on 12 July at 6:22 a.m. and 6:44, looking at or working his cell phone much of the time. (3055, 3122-27, 4133-69) At 6:22, defendant was wearing a pair of white-toed tennis shoes with a black stripe (4422, 4462), shoes that were never seen again or found or explained. (4139, 4461-62)

The computers were forensically examined by the FBI. One of the things they found on defendant's Cisco ThinkPad was that defendant logged in at 12:28 p.m. on Friday 11 July, went to his Hilton Honors account at 1:04 p.m; then to his CitiBank accounts at 1:06 p.m. where he continued for some time and had to authenticate with a password; then he went to the landing page for Google maps at 1:14 p.m. and 53 seconds. He then typed in zip code 27518 (as was his habit when getting weather reports too, see 6211, 6294), and then panned and zoomed until he was looking at the very place on Fielding Drive where Nancy's body was later found. (6268-311, 6353) Agents testified that this map search was not "planted" on defendant's computer by a hacker. (6174-75, 6420-22, 7085-87)

For the 41-second duration of the map search, some 500 files

were created, which is normal since each move of the cursor and click of the mouse creates a file. Every file in every computer's Master File Table has eight time stamps, indicating such matters as when each file was created, accessed, modified, etc. As to the files associated with this particular Google map search, seven of the columns registered accurate timestamps and one column registered invalid timestamps. (6173-75) This was merely an artifact of the particular operating system (6428), and existed sporadically throughout defendant's computer. (7083-84) This did not indicate that the Google map search was "planted" on defendant's computer (6174-75, 6386, 6420-22, 7085-87), and could not so indicate since the seven accurate attribute columns were valid and consistent with everything else that was being registered on defendant's computer. (6174-75, 6323-24)

Further, although defendant's computer was not unplugged during the time the house was being searched on 15 and 16 July, the FBI agents testified that there were no attempts to log into the computer or unlock its screen or tamper with it in that time. (6174-78) While some 600 files were registered during this 27 hours, this reflected normal operation for Cisco, which "pushes" system updates from the mother network to keep computers running and secured the way the company's policies dictated. (6168-69)

In a civil child custody proceeding on 2 October 2008, defendant gave six hours of details about his marriage and the events of 11-16 July. It differed in numerous respects from both what he had told police previously and what was later learned

through investigation. (See 6583-603 for list of differences.) Defendant was arrested on 27 October 2008. (8122)

Defendant's evidence

Defendant's theory was that the Cary Police rushed to judgment without conducting a proper investigation, and intentionally destroyed evidence (6843, 8531-45); that someone in a van possibly killed Nancy (7455-81, 7491-92); and that someone hacked into defendant's computer and planted the Google map search on it.

Defendant was a good father; and Nancy never feared for her safety or expressed any fear of violence from him. (7381, 7405) Although Nancy talked to one of her friends about sleeping with her keys and with her bedroom door locked, this was not because Nancy feared violence from defendant, but because she feared that he would take her car away. (7406, 7421)

Nancy spent too much money, and was unfaithful to him in a 2001 affair and a 2005 sexual incident with a neighbor. (3920-22, 7440) John Pearson testified that on Halloween 2005, after a party at one of their neighbors' houses, he and Nancy had a drunken sexual encounter in her house, and agreed the next day it was a mistake and that they would never talk about it again. He did not tell police about the incident at first; but addressed it completely with them when they asked him about it. (7815-49)

Sylvia Hink saw two separate girl joggers on Fielding Drive between 7:30 and 8 a.m. on Saturday 12 July. She could not recall what they looked like. (7491-92) The next day, Sunday, she took a walk back into the new subdivision and saw a maroon van there with

"two Hispanics just leaning against it." (7492)

Rosemary Zednick saw a jogger near the Lochmere pool shortly after 7 a.m. on 12 July. She believed it to be the same woman whose picture was in the flyers. (7539) She called the Cary Police and told them that the woman was possibly wearing an iPod. (7546, 7561) [Note: Nancy never wore an iPod while running. (5702)] She talked to three other officers at separate times and told them her theory that the woman was hit by a car because she had an iPod on. (8438, 8447) She became upset that the detectives would give her their cards but not call her back (7559-60); so she called defendant's defense team, and they contacted her right away. (7539)

Curtis Hodges saw a female jogger at around 7 a.m. on 12 July near the Lochmere golf course; he also saw "two Hispanic gentlemen" in a "red" or "reddish-white" van turn around on the same stretch of road as the jogger. (7574) He did not see them make contact. (7591) On 14 July, he saw the missing jogger flyers with Nancy's picture on them. He called police and talked to them that same day; and talked to a detective again in mid-October. (7570-91)

Cell phone expert Ben Levitan testified that Det. Young's report, in which Young recounted how following the special instructions given to him by AT&T for unlocking Nancy's Blackberry phone resulted in him erasing its contents, could not have occurred in the way that Young described. (7687) On cross-examination, Levitan admitted that he had failed to follow his own protocols, violated a court order in this case, and put things in his report that he was told by the defense team. (7747-55)

Defendant presented evidence that the 11 July 2008 Google map searches on his computer at 1:14 p.m. were "manufactured." (7162-66, 7186, 7198-7211) Further, he presented evidence that this tampering could be done easily and without leaving any telltale signs behind. (7186-97, 7211, 7212-40, 7241, 7251-52)

Ricardo Lopez and his wife Donna were at the Friday 11 July 2008 dinner party and met Nancy there. Ricardo told police in an interview on 20 August 2008 that he remembered Nancy saying she was going jogging the next day. (7910-14, 7932) However he went back to police and corrected this on 22 August 2008, as he came to believe that the constant TV soundbites about Nancy going jogging that day and being a missing jogger led him to think that he had heard this from her. (7910-19, 7934-36, 7945-48)

ARGUMENT

I. THE TRIAL COURT DID NOT ABUSE ITS DISCRETION BY EXCLUDING THE TESTIMONY OF GIOVANNI MASUCCI.

The trial court excluded Masucci's testimony because he was wholly unprepared to give an expert opinion on alleged tampering when he, admittedly, had not even finished his examination of defendant's computer. Masucci also had not provided the State with a complete report of his findings because he was "still reviewing" the hard drive. (8291-92, 8296) Moreover, the three-day notice defendant provided allowed no time for the State to investigate Masucci's background or prepare for meaningful cross-examination. Therefore, the trial court properly exercised its discretion to exclude this evidence as a discovery sanction and under Rule 403.

Furthermore, the trial court's ruling did not violate defendant's constitutional right to present a defense. And even if there was constitutional error, it was harmless beyond a reasonable doubt.

A. Relevant facts.

On 24 February 2011, defendant filed notice of his intent to introduce expert testimony from various potential witnesses, including Jay Ward. (R 78-81) Along with the notice, defendant provided the State with Ward's curriculum vitae, which detailed his eighteen years of experience as a network security professional, but indicated zero experience in forensic computer analysis. Defendant also provided Ward's two-page "report," which was largely biographical and contained only one paragraph detailing his examination of defendant's laptop and his conclusory opinion that there was evidence of tampering. (R 367-70)

On Tuesday, 19 April 2011, defendant called Ward as his first witness, and the State requested a *voir dire* to challenge his qualifications. At the conclusion of the *voir dire*, the trial court ruled Ward was not qualified to testify as a forensic computer examiner because his proffered method of proof was unreliable. The basis for this ruling, which is more fully addressed in Argument II of the State's brief, was that Ward admitted he was not an expert in computer forensics and had no training in that field. (6909-7011, 7620) The trial court allowed him to testify "in the field of computer network security and vulnerability assessment," which was his field, but properly barred him from giving an expert opinion about actual tampering. (7010)

On Thursday morning, 21 April 2011, defendant gave notice of his intent to call not the forensic experts already named on his witness list, but an undisclosed witness, Giovanni Masucci, pursuant to N.C.G.S. § 15A-905(c)(3). That statute permits the testimony of undisclosed *lay* witnesses upon a showing of good faith. (7363, R 474-75) Apparently, Masucci had been sitting in the courtroom observing defendant's trial and initiated contact with defense counsel after Ward testified. (8287-88, 8301) Defense counsel forwarded Masucci's CV to the State on Friday, and then emailed Masucci's unfinished report to the State on Saturday. No court was held on Sunday, which was Easter, and on Monday, April 25th, defendant sought to call Masucci as an expert witness in the field of forensic computer analysis. (7599-7600)

Given the late notice of this witness, the State moved to exclude Masucci's testimony. The prosecutor argued the State was prejudiced by the unfair surprise because it had less than 36-hours to investigate this witness. (7601-05) Three days allowed the State little time to investigate Masucci's background, including researching any prior expert opinions he has given in other court proceedings, reviewing any publications he may have authored, and consulting with the State's own experts to prepare for cross-examination, who were no longer available. (7604-05, 7615-18)

Defendant argued that the State was not prejudiced by the late notice because Masucci had simply adopted Ward's report, which the State already had in its possession. (7606-10, 7618-19) Defendant also argued there was no bad faith in the discovery violation

because he "did not reasonably expect to call" Masucci as a witness until Ward's testimony on forensic examination was excluded. Id. Thus, counsel asserted defendant had made the good faith showing required under N.C.G.S. § 15A-905(c)(3). Id.

The State noted that although Masucci essentially agreed with everything in Ward's report, he made several "new" assertions that were not included in Ward's findings, including technical information that required the assistance of the State's experts to interpret. (7610-11) Masucci's report also failed to describe any tests he performed to reach his conclusions. (7617-18) As to defendant's purported good faith showing, the State presented State's Exhibit 644, which was an Internet blog posting by Ward, stating, "I would never hold myself out as a forensic expert. I also told the Defense this up front." (7612, 7620) The defense could not reasonably assert a good faith basis for needing to call a surprise expert witness when they knew that Ward was not an expert in computer forensics. Id.

Following arguments of counsel, the trial court granted the State's motion to exclude Masucci's testimony. (7621) The court noted that it had considered the discovery statutes, case law cited by the State, and Ward's prior notice to the defense that he was not qualified to testify as an expert in computer forensics. (7620-21) Regarding the potential prejudice to the truth-determining function of the trial process, the court found:

> I believe that the State is at a significant inability to prepare to adequately cross-examine him, based upon their representations. First, no report detailing any tests

> have been filed. The late hour of the identification of this particular witness has deprived the State of any opportunity to research his qualifications and adequately prepare for cross examination. I'll note that the State has represented that their . . . FBI computer witnesses are unavailable, at this time.
>
> The report that has been filed does not detail the tests that were provided. It does rely, in some degree, or to some degree, upon the tests that were apparently prepared by Mr. Ward or somebody else acting with Mr. Ward. And the basis of those tests was part of the reason why I excluded his testimony, or lack of – – of foundation of those tests, was part of why I excluded his testimony previously in this matter.

(7621-22) The trial court also ruled, under Rule 403, that the potential prejudicial effect of Masucci's testimony "far outweighs the probative value of this evidence . . . due to the inability to adequately prepare to defend against it." (7622)

During defendant's offer of proof, Masucci testified that he found evidence of tampering on defendant's laptop. (8283-87) However, he admitted that he received Ward's copy of defendant's hard drive (deemed unreliable by the trial court) just four days before and performed a "preview" search of the data. (8288) On Tuesday, two days prior, he received the FBI's copy of the hard drive from defendant's "other forensic examiner," Rusty Gilmore, which had "a lot of data [in] there" that he "did not have time to analyze." (8288-90) Masucci also admitted he only had 48-hours to write his report, which was only "bits and pieces" of information that he "just grabbed off [his] desk." (8291) He was "still reviewing" the hard drive and had not seen the router logs, which he needed to "validate or verify" his conclusions. (8291-92, 8296)

At the conclusion of the offer of proof, counsel asked the

court to reconsider its ruling excluding Masucci's testimony. The State again objected, emphasizing that Masucci had not even finished researching the hard drive or drafting a report, which made it impossible to effectively cross-examine him. The State also noted that defendant had two other forensic computer experts he could have called whose names were actually on defendant's witness list, and that one of them, Rusty Gilmore, had the FBI imaged hard drive in his possession and gave it to Masucci. (8288-89) The other expert, Jim Ewell, was a computer science professor at N.C. State University. There would have been no prejudice to the State with one of these previously listed experts. (8300-06)

Following the offer of proof, the trial court denied defendant's motion to reconsider, reiterating that its decision was based on N.C.G.S. § 15A-905 and Rule 403. (8306)

B. Exclusion under § 15A-905 and Rule 403.

Pursuant to N.C.G.S. § 15A-905(c)(2), if the State provides defendant notice of its experts under N.C.G.S. § 15A-903, defendant must also "give notice to the State of any expert witnesses that the defendant reasonably expects to call as a witness at trial . . . [and] furnish to the State, a report of the results of the examinations or tests conducted by the expert[,] . . . the expert's curriculum vitae, the expert's opinion, and the underlying basis for that opinion." Defendant must provide these materials to the State "within a reasonable time prior to trial, as specified by the court." N.C.G.S. § 15A-905(c)(2) (2011).

However, defendant must "[g]ive the State, at the beginning of

jury selection, a written list of the names of all *other* witnesses whom the defendant reasonably expects to call during the trial." N.C.G.S. § 15A-905(c)(3) (2011) (emphasis added). Contrary to the notice requirements for expert witnesses, this statute specifically allows for the addition of undisclosed lay witnesses when defendant asserts a good faith reason for his non-compliance. Id.

Although subsection (c)(2) does not contain any "good faith" exception, defendant argues the trial court cannot exclude an undisclosed *expert* witness absent a finding of bad faith. However, defendant cites no authority to support this contention, and the State has found none. Instead, defendant cites State v. McClintick, 315 N.C. 649, 662, 340 S.E.2d 41, 49 (1986), in which our Supreme Court said that "discretionary rulings of the trial court will not be disturbed on the issue of failure to make discovery absent a showing of bad faith by the state in its noncompliance with the discovery requirements." However, this language does not mean that a showing of bad faith on the part of defendant is somehow *required* before a trial court can exclude evidence as a discovery sanction.

Our courts have consistently held the trial court has broad discretion to determine what, if any, sanction to impose; and its determination will not be overturned on appeal absent an abuse of that discretion. State v. Lane, 365 N.C. 7, 32-34, 707 S.E.2d 210, 225-27, cert. denied, 132 S. Ct. 816, 181 L. Ed. 529 (2011); State v. Blankenship, 178 N.C. App. 351, 356, 631 S.E.2d 208, 212 (2006).

This Court has upheld the trial court's exercise of discretion to exclude a defense expert under similar circumstances. See Leyva,

181 N.C. App. at 502, 640 S.E.2d at 400. In Leyva, the defendant was convicted of trafficking in cocaine upon evidence obtained through a confidential informant. At trial, the defendant sought to present expert testimony on the reliability of confidential informants without any prior notice to the State. The trial court excluded the evidence because (1) defendant failed to comply with N.C.G.S. § 15A-905(c)(2); (2) he should have anticipated the issue; and (3) the proposed evidence was not required by the interests of justice. On appeal, this Court upheld the trial court's ruling because "it was within the trial court's discretion to deny defendant's request to allow an undisclosed [expert] witness to testify during the trial[.]" Id.

Likewise, the trial court here committed no abuse of discretion by excluding Masucci's testimony. As in Leyva, defendant violated N.C.G.S. § 15A-905(c)(2) by failing to give adequate notice; he should have anticipated the need for an actual expert forensic computer examiner in light of Ward's admission that he was not one; and it was not in the interests of justice to admit Masucci's testimony given the incompleteness of his research and the State's inability to test his knowledge through effective cross-examination. The trial court had even greater reason to exclude Masucci's testimony because his conclusions were based upon tests performed by Ward, which the court deemed unreliable. (7621-22) Further, defendant had two other forensic computer experts he could have called, who were previously identified. Given these valid grounds for exclusion, defendant has failed to show the trial

court's ruling was arbitrary or unreasoned.

Finally, even if the trial court somehow abused its discretion by imposing a discovery sanction, the evidence was properly excluded under Rule 403. Rule 403 evidentiary rulings are discretionary and "binding on appeal, unless the dissatisfied party shows that the trial court abused its discretion." State v. Chapman, 359 N.C. 328, 348, 611 S.E.2d 794, 811 (2005).

Our Supreme Court has discussed the "compelling need to halt [expert] testimony when it is based on an insufficient method of proof." State v. Ward, 364 N.C. 133, 146, 694 S.E.2d 738, 746 (2010)(discussing the unreliability of a visual inspection methodology used by an SBI Agent to identify a controlled substance). This is so because, given the expert's remarkable credentials, the jury might be "unduly persuaded" by his testimony and treat it as "infallible," without properly appreciating that the expert never even performed a scientific examination. Id. at 146, 694 S.E.2d at 746. The Court cautioned that this potential prejudice to the jury exists, "even with vigorous cross-examination and proper jury instructions[.]" Id.

Here, the potential unfair prejudice outweighed any probative value Masucci's testimony might have had. His method of proof was unreliable where he based his conclusions on tests for which no foundation had been laid, his research was incomplete, and he only provided the State with "bits and pieces" of information as opposed to a full report. (8291) As a result, it is unlikely his testimony had any probative value at all. Therefore, the trial court had a

"compelling need to halt" this testimony, Ward, 364 N.C. at 146, 694 S.E.2d at 746, and in doing so, did not abuse its discretion.

C. No constitutional violation occurred.

At trial, defendant also argued the exclusion of Masucci's testimony violated his constitutional right to present a defense because it was necessary to refute the State's "key" piece of evidence. (7608, 8301) However, this contention is meritless.

In Taylor v. Illinois, 484 U.S. 400, 414, 98 L. Ed. 2d 798, 814 (1988), the United States Supreme Court held that preclusion of defense evidence as a discovery sanction does not automatically result in a constitutional violation. Taylor acknowledged that each party is to be provided "with a fair opportunity to assemble and submit evidence to contradict or explain the opponent's case," and that there is no "bar to the preclusion of the testimony of a surprise witness." Id. at 410, 411, 401, 98 L. Ed. 2d at 811. The Court recognized the importance of discovery and the "'State's interest in protecting itself against an eleventh-hour defense." Id. at 412, 98 L. Ed. 2d at 812. The Court further acknowledged that a trial court's "'preclusion sanction was an entirely proper method of assuring compliance with its order.'" Id. (quoting United States v. Nobles, 422 U.S. 225, 241 (1975)).

To determine whether preclusion of a defense witness violates the Sixth Amendment, the Court held the "fundamental character of the defendant's right to offer the testimony of witnesses in his favor" must be balanced with "countervailing public interests." Id. at 414, 98 L. Ed. 2d at 814. Factors to consider include:

> [t]he integrity of adversary process, which depends both on the presentation of reliable evidence and the rejection of unreliable evidence, the interest in fair and efficient administration of justice, and the potential prejudice to truth-determining function of trial process.

Id. In addition, although bad faith is not required, when the discovery violation is "willful and motivated by a desire to obtain a tactical advantage[,]" preclusion is "entirely consistent with the purposes of the Compulsory Process Clause[.]" Id.

Application of the Taylor factors to this case reveals no constitutional error. Here, as in Taylor, the truth-determining function of the trial process was gravely at risk due to the State's inability to rebut the testimony. See id. at 411-12, 98 L. Ed. 2d at 812 (noting that pretrial discovery "minimizes the risk that a judgment will be predicated on incomplete, misleading, or even deliberately fabricated testimony."). And, as previously discussed, the methodology upon which Masucci's opinion was based was completely unreliable. Thus, the need to preserve the integrity of the trial process far outweighed defendant's interest in presenting this evidence.

Furthermore, Taylor held that when the violation was willful, it did not matter whether prejudice to the prosecution could have been avoided. Id. at 417, 98 L. Ed. 2d at 815. Here, defendant's deliberate action of calling an expert (Ward) he knew was unqualified is some evidence that he acted in bad faith. Also, defendant could have avoided any unfair surprise to the State by calling either of the two other experts who were included on his

witness list. Therefore, a less severe sanction was not required under these circumstances. See, e.g., Chappee v. Vose, 843 F.2d 25 (1988) (preclusion of defense experts did not violate defendant's constitutional rights where defendant's deliberate violation of discovery rules justified the sanction).

D. Any error was harmless.

Even assuming there was a constitutional error, it was harmless beyond a reasonable doubt. Despite the trial court's ruling limiting Ward's testimony, defendant elicited substantial evidence from Ward that the 11 July 2008 Google map searches on his computer at 1:14 p.m. were "manufactured" (7162-66, 7186, 7198-7211), and that this tampering could be done easily, and without leaving any traces behind. (7186-97, 7211, 7212-40, 7241, 7251-52) Defendant also extensively cross-examined the State's computer experts, Gregory Johnson and Chris Chappell, regarding the presence of invalid timestamps in the computer's master file table and other alleged evidence of tampering. (6101-07, 6111-23, 6131-49, 6161, 6180-82, 6315-25, 6359-72, 6377-82, 6384-6420, 6469-6471) Defendant argued it in closing extensively. (8536-61) Thus, although the jury rejected this theory, defendant was not precluded from asserting this defense.

Additionally, there is overwhelming circumstantial evidence linking defendant to Nancy's murder, unrelated to the Google map searches. (See Statement of Facts.) Therefore, Masucci's testimony on this very narrow issue would not have cast any reasonable doubt as to defendant's guilt. State v. Autry, 321 N.C. 392, 400, 364

S.E.2d 341, 346 (1988); State v. Thompson, 110 N.C. App. 217, 225, 429 S.E.2d 590, 595 (1993). Given the overwhelming evidence of defendant's guilt, and that the jury actually heard and considered evidence of tampering, there is no reasonable possibility Masucci's testimony would have changed the jury's verdict.

II. THE TRIAL COURT DID NOT ABUSE ITS DISCRETION BY NOT ALLOWING JAY WARD TO TESTIFY AS AN EXPERT IN FORENSIC COMPUTER ANALYSIS.

Defendant argues the trial court abused its discretion and violated his constitutional right to present a defense by refusing to allow Jay Ward to testify as an expert in the field of forensic computer analysis. However, in light of Ward's complete lack of knowledge, experience, and training in this area, which he readily admitted, defendant's argument is without merit.

A. Exclusion under Rules 702 and 403.

Under N.C.G.S. § 8C-1, Rule 702(a), "[i]f scientific, technical or other specialized knowledge will assist the trier of fact to understand the evidence or to determine a fact in issue, a witness qualified as an expert by knowledge, skill, experience, training, or education, may testify thereto in the form of an opinion." The trial court is given "wide latitude of discretion when making a determination about the admissibility of expert opinion testimony," and the trial court's ruling "on the qualifications of an expert or the admissibility of an expert's opinion will not be reversed on appeal absent a showing of abuse of discretion." Howerton v. Arai Helmet, Ltd., 358 N.C. 440, 458, 597 S.E.2d 674, 686 (2004).

North Carolina employs a three-prong inquiry for determining the admissibility of expert testimony: "(1) Is the expert's proffered method of proof sufficiently reliable as an area for expert testimony? (2) Is the witness testifying at trial qualified as an expert in that area of testimony? [and] (3) Is the expert's testimony relevant?" Id. at 458, 597 S.E.2d at 686 (internal citations omitted). "Within this general framework, reliability is thus a preliminary, foundational inquiry into the basic methodological adequacy of an area of expert testimony." Id. at 460, 597 S.E.2d at 687.

In this case, the trial court excluded Ward's testimony under the first and second prongs, upon finding "his proffered method of proof is not sufficiently reliable in the area of expert testimony as a forensic examiner," and because the court did not "believe that he is properly qualified as a forensic analyst." (7008) These findings are supported by the record.

The *voir dire* regarding Ward's qualifications reveal Ward had no training, no education, no certifications, and no legitimate experience in the field of forensic computer analysis. (6914-95) Instead, his entire expertise was in the field of network security, which involves vulnerability assessment of wireless networks and "host hardening" to protect a network from potential intrusion. (6914-15) He testified he had only performed two forensic exams in his life, both of which he completed using a forensic tool (Encase) for which he had no certification or training. (6958-61, 6972, 6984) Ward repeatedly admitted his lack of training and knowledge

when questioned by the prosecutor:

> Q. Okay, within this resume, there is nothing on here about forensic examinations of computers, is there?
>
> A. No, there's not.
>
> Q. Okay. Your expertise is in the field of network security; isn't that right?
>
> A. That is correct, among other. (6957)
> . . .
>
> Q. How does that prepare you [] to do a forensic examination of a computer?
>
> A. That probably – – by itself, probably, . . . I'm not sure that it does. (6970)

Furthermore, when questioned about the forensic examination he completed in this case, Ward could not even explain the procedure or confirm the reliability of the forensic tool used. A friend of his, who works for Cisco, gave him a copy of Encase. Ward did not know what version of Encase he used, whether it was a licensed copy, or if he complied with industry standards when using it. He essentially had no idea how the test was performed because his friend from Cisco stood over his shoulder and told him what to do. (6977-81) Ward also admitted he completed this "forensic" examination at home, without documenting any steps he took, which made it impossible to determine whether the test was consistent with industry standards or to replicate it. (6974, 6984-89)

Based on the record, defendant cannot seriously argue that Ward's proffered methodology was reliable or that he was qualified to testify as an expert in forensic computer analysis. Given Ward's admitted lack of qualification and his dubious methods, the

trial court did not abuse its discretion by excluding his testimony on forensic examination (but allowing him to testify about network security). See, e.g., Ward, 364 N.C. at 146, 694 S.E.2d at 746 (trial court should have excluded the State's expert because his visual inspection methodology was not sufficiently reliable as an area of expert testimony); State v. Taylor, 304 N.C. 249, 260, 283 S.E.2d 761, 770 (1981) (trial court did not abuse its discretion by excluding defendant's expert because he was not qualified as an expert in the proffered area of testimony).

Ward's testimony was also properly excluded under Rule 403 because, due to the unreliability of his methodology, the potential unfair prejudice far outweighed any probative value of the evidence. See Ward, 364 N.C. at 146, 694 S.E.2d at 746 (discussing the significant danger of unfair prejudice to jury when an expert's opinion is based on an unreliable method of proof).

B. No prejudice.

In any event, despite the court's ruling, defendant presented substantial evidence through Ward that the Google map searches were "manufactured" and "planted" on defendant's computer, as noted above. Thus, he was not denied his right to present a defense.

Finally, any error in the exclusion of this evidence was harmless due to the overwhelming evidence of defendant's guilt beyond the Google map searches.

III. THE TRIAL COURT DID NOT ABUSE ITS DISCRETION BY DENYING DISCOVERY OF THE FBI'S STANDARD OPERATING PROCEDURES FOR FORENSIC COMPUTER EXAMINATIONS.

Defendant's pretrial motion to compel sought discovery of the

FBI Computer Analysis Response Team's (CART) policies and procedures for analyzing computers, as well as the bench notes of FBI Agent Gregory Johnson, who documented these procedures when he examined defendant's computer. (R 232-289) The State objected to discovery on three grounds: (1) it was the State's work product; (2) it was protected by the law enforcement qualified privilege recognized by federal courts; and (3) pursuant to N.C.G.S. § 15A-908, its disclosure would result in a substantial risk of harm to the public. (8/27/10 11-27, R 152-163) The trial court denied discovery on all three grounds. (8/27/10 27, R 171-72) Defendant has challenged only the first two grounds. Thus, the third stands alone as a reason for denying the discovery request. Nor was there error as to the first two grounds.

A. Work Product Privilege.

The work product doctrine is a qualified privilege for certain materials prepared by an attorney acting on behalf of his client in anticipation of litigation. United States v. Nobles, 422 U.S. 225, 238 (1975). The doctrine protects the mental processes of the attorney from outside interference and provides a privileged area for analyzing and preparing the case. Id. It is also a practical doctrine "grounded in the realities of litigation" including "that attorneys often must rely on the assistance of investigators and other agents in the compilation of materials in preparation for trial." Nobles, 422 U.S. at 238. Thus, it has been extended to "protect material prepared by agents for the attorney as well as those prepared by the attorney himself." Id. at 238-39.

Defendant claims the work product doctrine cannot apply to the bench notes of a law enforcement officer because the revised discovery statutes require the State to provide defendant "the complete files of all law enforcement agencies[.]" N.C.G.S. § 15A-903(a)(1) (2011). He also claims the statutory work product privilege in N.C.G.S. § 15A-904 applies only to materials prepared by the District Attorney or his staff, but not to law enforcement. See N.C.G.S. § 15A-904(a) (2011).

To support this argument, defendant cites State v. Bates, 348 N.C. 29, 497 S.E.2d 276 (1998), in which the Supreme Court upheld a discovery order requiring the production of the "complete files of all law enforcement and prosecutorial agencies," pursuant to N.C.G.S. § 15A-1415(f). The Court rejected the State's assertion of work product privilege, emphasizing that because N.C.G.S. § 15A-1415(f) only concerns capitally sentenced defendants in post-conviction proceedings, "[c]ase law applying the work product privilege to pretrial discovery and statutes governing pretrial discovery d[id] not control" its decision. Id. at 34, 497 S.E.2d at 279. Thus, Bates is not controlling.

Here, the State provided defendant with everything that constitutes "the complete files of all law enforcement agencies" involved in the investigation of this case, including an exact copy of the hard drive examined by Agent Johnson, his full report, and a CD which contained all the material he retrieved from the hard drive. (8/27/10 11-16) Defendant's request for Agent Johnson's bench notes was simply a fishing expedition for material containing

the State's theories and mental processes. Id. The legislature did not intend for this type of work product to be subject to discovery, as evidenced by N.C.G.S. § 15A-904. Because defendant has cited no authority to support his contention that Agent Johnson's bench notes were not subject to work product protection, he has shown no error in the trial court's ruling.

B. Law Enforcement Qualified Privilege.

Even if this Court finds the bench notes were not work product, the trial court properly withheld them from discovery based on the law enforcement qualified privilege. Under federal common law, there is "a qualified government privilege not to disclose sensitive investigative techniques" when public disclosure of such information "would adversely affect future criminal investigations." United States v. Van Horn, 789 F.2d 1492, 1507 (11th Cir. 1986). Defendant's need for the information is balanced against the risk of "educat[ing] criminals" on how to evade detection by law enforcement. Id. at 1508.

Federal courts have routinely applied this privilege to protect the public from criminals discovering sensitive law enforcement investigative techniques and procedures. In re U.S. Dep't of Homeland Security, 459 F.3d 565, 569 (5th Cir. 2006) (recognizing that "in today's times the compelled production of government documents could impact highly sensitive matters relating to national security."); Dellwood Farms v. Cargill, Inc., 128 F.3d 1122, 1126 (7th Cir. 1997); In re Dep't of Investigation, 856 F.2d 481, 484 (2nd Cir. 1988); United States v. Green, 670 F.2d 1148,

1155 (D.C. Cir. 1981); United States v. Winner, 641 F.2d 825, 831 (10th Cir. 1981).

The information contained in Agent Johnson's bench notes was an "exact replica" of the FBI's standard operating procedures ("SOPs") for examining computer evidence, the same procedures used in counter-terrorism efforts and child pornography investigations. (8/27/10 15, R 156-63) The disclosure of this information could lead to countermeasures defeating the FBI's ability to obtain forensic data in future investigations. Thus, the trial court properly found that requiring the FBI to publically disclose its SOPs "would be contrary to the public interest in the effective functioning of law enforcement." (R 172)

Furthermore, defendant failed to demonstrate a necessity for disclosure. Defendant's only asserted reason for requesting the SOP's was because "they safeguard the data" and determine its integrity. (8/27/10 20) However, defendant had no problem cross-examining the State's experts about the integrity of their examination, despite not having the SOPs. (6101-64, 6315-6420) And, as previously mentioned, the State provided defendant with all the actual data resulting from Agent Johnson's examination. Thus, defendant has failed to show a need for the SOPs sufficient to overcome the compelling public interests justifying non-disclosure.

C. Substantial risk of harm to public.

Finally, even if the trial court erred by finding this information was protected by both the work product privilege and the law enforcement qualified privilege, it properly denied

discovery under N.C.G.S. § 15A-908(a) because the State showed good cause there was a substantial risk of harm to the public. (R 172) The trial court has broad discretion to regulate discovery under this statute, and defendant has neither shown nor argued the trial court abused its discretion in this regard. Therefore, defendant has failed to show any reversible error in the trial court's discovery order. Further, because there was overwhelming evidence that defendant was the person who murdered Nancy, any error in the trial court's order was harmless beyond a reasonable doubt.

CONCLUSION

The State respectfully asks that this Court find no error below and uphold defendant's conviction.

Electronically submitted this the 8th day of February, 2013.

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I certify that the attorney listed below has authorized me to list her name on this document as if she had personally signed it.

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CERTIFICATE OF SERVICE

I HEREBY CERTIFY that I have this day served the foregoing BRIEF FOR THE STATE upon the DEFENDANT by placing a copy of same in the United States Mail, first class postage prepaid, addressed to his ATTORNEY OF RECORD as follows:

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This the 8th day of February, 2013.

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