



The Sheku Bayoh Public Inquiry

Witness Statement

Shirley Chin

**Taken by [REDACTED] by MS Teams
on Thursday 24 March 2022**

Witness details and professional background

1. My full name is Shirley Chin. I was born in 1979. My contact details are known to the Inquiry.
2. I work at the Scottish Police Authority Forensic Services Laboratory and we're based at the Scottish Crime Campus in [REDACTED]
3. My qualifications are a BSc from the University of Toronto graduating in 2001 and a MSc from Strathclyde University graduating in 2003.
4. I am a Forensic Scientist at the laboratory with 14 years of experience in the Chemistry and Documents Section, having worked in this unit since 2008. My areas of expertise include fire investigation, fire accelerants analysis, paint analysis, footwear mark comparisons and chemical identification. I also attend scenes when and where required.
5. I have been asked what training I have undertaken since 2015. We are assessed via annual competency tests. These are externally set tests with

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known outcomes. We carry out these tests annually to maintain our competence.

6. I was in this role when my colleague Alison Marven and I finished and signed the report dated 24 August 2015 (COPFS-00114).

Report dated 24 August 2015

7. On page 16 of the report there is what looks like a summary of the findings of the report. However it is neither mine or Alison's writing.
8. Most of our laboratory reports we produce are countersigned, corroborated by two qualified forensic scientists. In relation to this report, both Alison and myself carried out the work and produced this joint report. A number of examination types that we carry out in the laboratory are initially done independently. We will then discuss our findings and prepare a joint report signed by both reporting officers, such as this one, including our final conclusions. This applies to examinations such as footwear mark comparisons. Many of the analysis types which we do will result in a joint report.
9. The Police or the Crown Office and Procurator Fiscal Service submit a request form to examine particular articles, sometimes for a specific reason. But, as scientists, we will also consider the case scenario and when examining the article, will consider if there are any other forensic opportunities that may not have been requested, if applicable.
10. In some instances, the Fiscal or the Police may not be aware of the types of analysis we can carry out. As mentioned earlier, we would consider the case scenario, incident and background information when assessing the article and if there were other forensic opportunities available which we could assist with,

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it can be discussed with the Fiscals or Police over the phone or in a meeting. Following this discussion, they may ask for that work to be carried out as well.

Instructions from PIRC

- 11. With regard to instructions and background information, whenever anything is lodged at the lab there will be an examination request form provided by the Police. In this case what we have is a forensic services examination request form from the Police Investigations and Review Commissioner, which is slightly different than our ones that we receive from the Police.

- 12. On the Examination Request Form there is information including Officer in Charge details, the case details (including time, date, place and subject details). The subject details include the deceased's personal details. There is a section titled "General Information" which includes the incident background and the objective of the analysis. So, verbatim, the information provided on the Request Form is as follows:

About 0715 hours Police Scotland received a number of telephone calls reporting a black male (now deceased...Date of birth [REDACTED] 83) walking with a knife on Hayfield Road, Kirkcaldy. A number of uniformed and plain clothes officers attended the locus, where on seeing them he allegedly punched and kicked one of the officers (Nicole Short) on the head and body. A struggle then ensued between police officers and Sheku Bayoh. Witnesses later observed the deceased was lying on his back with police officers performing CPR. A knife was recovered close to the locus which may have been in the possession of Sheku Bayoh at some point during this incident. It is alleged that this knife came into contact with a white Seat motor vehicle reg number [REDACTED] and was used in a threatening manner towards members of the public. A dwelling house, believed to be the home of Sheku Bayoh, at [REDACTED] Arran Cres, Kirkcaldy, Fife was subsequently searched by Police Scotland

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and various [REDACTED] and other items, including kitchen knives, were seized as productions.

13. The above was the background information. What follows here are the instructions received on the form:

Please note all productions are required to be photographed prior to examination. The following items require to be examined and the justification for such is referred to as follows.

Production 8 AM008. Personal radio [REDACTED] Craig Walker (bloodstained); Production 140/blood for DNA/Bayoh. Establish if this is blood is from the deceased or any police officer at the scene and if this has been sprayed or if any other method of contact caused this contamination during CPR.

Production 51 - vest JM019/[REDACTED] Nicole Short; Production 166-GAY016 - right boot; Production 167-GAY017 - left boot. Please examine this vest to establish if any foot impressions are visible or exist and, if so, compare with deceased's footwear, Production 166/167. Also establish if there has been any forensic interaction between the deceased's boot and the vest.

Production 184-SD918 - knife; Production 140 - blood for DNA - Bayoh; Production 216 - Knife 1; Production 217 - Knife 2; Production 218 - Knife 3; Production 233 - paint sample 1 (from AM2); Production 234 - paint sample 2 (from AM3). Please examined Production 184 for deceased's DNA, fingerprints. Also examine knife to establish if any paint from white Seat motor vehicle registration number [REDACTED] (Production 233 and 234) is present. Also examine Production 184 with Productions 216, 217, 218 to confirm if these are part of all of a same set.

Production 209 - bottle of 56 tablets labelled "Creatine"; Production 210 - bottle of 33 tablets labelled "Herbal VY for Men"; Production 211 - bottle of 48

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tablets labelled "Rhodiola"; Production 212 - bottle of 38 tablets labelled "Testosterone Booster"; Production 213 - box of 27 tablets labelled "Omeprazole"; Production 214 box of 7 tablets labelled "Omeprazole"; Production 215 - 16 loose tablets. Please identify the properties of these tablets and offer an opinion on what effect these or a combination of these would have if consumed.

14. I have gathered the case notes, which were taken contemporaneously by Alison Marven and I. When we examine an article, we record the notes as we go along.
15. We examined the vest and the boots, the knives and the paint sample. I remember examining the vest, the boots and the knives.

Sheku Bayoh's boots

16. I examined the apparent pair, starting with the right boot. The purpose of this examination was to discern whether there was any interaction between the boot and the vest, if there are any marks on the vest made by the boots.
17. What we focus on is the soles, because that is what generally makes contact with a surface to leave a mark or impression behind. We look at the overall pattern of the sole of the shoe; pattern meaning for example a series of zig zags, circles, blocks, or different shapes. We look at the pattern size, the pattern elements, the spacing or layout or arrangement of the pattern elements and also size. Size does not refer to commercial shoe size (such as UK 7) but rather the length, width, spacing and dimensions of the pattern and pattern elements.
18. We also look at things such as if there is areas of wear. So the more you wear a shoe out certain areas will become balder. There's friction, so it will wear out the sole of the shoe more depending on which has more contact with the

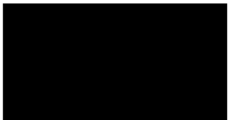
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ground, for instance. As well as wear, it depends on what you walk on, you can cause damage to the sole. So we're looking at fine detail as well.

19. We will include background information into our reports. In some instances, the background and incident information would be of relevance when we draw our conclusions.
20. I cannot recall what the uppers of the boots look like; we did not take pictures of the boot uppers. I believe Biology examined these boots before us and thus would think they had recorded it first. When we examine items of footwear, we take acetate lifts from the soles of the shoes. These are used for the footwear mark comparisons.
21. We took a lift of the boots, so one of the left and one of the right, so that if we found a footwear mark on the vest, for instance, we would use the lift of the boots and carry out our comparisons on the vest.
22. So we have a lift of the left and right boot, in this case. We've taken a lift from them to record the pattern for comparison.

PC Nicole Short's vest

23. According to my notes, we examined the vest on 28 May 2015.
24. We did not take a photograph of the vest. The notes state that prior to our examination, the vest was examined by Biologists. I believe that is why we did not have the vest photographed, thinking that it was already done prior to Biology examining the vest. The reason I know Biology had examined the vest before we did was because there was a separate sealed plastic bag marked "paper used for bio exam PS/LEM" taped to the inside of the evidence bag, as well as the biologists' signatures on the evidence bag; and this item was routed from Biology.

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25. The article contained a padded police vest with hi-vis outer layer, shoulder badge [REDACTED] There was an LED lens or torch and a leather strap with buckle also in the evidence bag.
26. When we examined the vest, the front left black pocket of the vest has a light coloured marking on the surface. It could possibly be dirt rubbed onto the surface; we did not examine this further.
27. A generic "mark", when used in context of our report, refers to a stain which has no definitive shape or clear pattern elements which resemble those typical of footwear marks; or if we cannot determine what could have made it, it would be referred to as a mark.
28. The vest was a typical black padded police vest with a hi-vis lighter covering on top and it is strapped in, attached to the black vest. A clean / new padded vest would be all black, however this particular vest had some light discolouration in some areas. This staining was something added on top of the material. The pocket contained latex gloves.
29. The front right black vest pocket has similar discolouration or staining on the surface, and this pocket was empty. There was light coloured staining noted near the neckline/shoulder area of the vest, which is possibly make-up. We did not examine this further.
30. Coming from a female police officer, it might be make-up or lotion or something else, but it wasn't a mark, it was just staining/discolouration that we noted.
31. We examined the vest further using instrumentation with different lighting conditions. This lighting could allow a mark to stand out from its background,

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making the mark easier or clearer to see. In this case, there were no additional details or marks noted when using the different lighting conditions.

- 32. As our results were inconclusive, we forwarded it to the Mark Enhancement Lab for their examination who have different lighting techniques and different chemical treatment techniques to bring out other marks.
- 33. I was not informed of the outcome of the Mark Enhancement Lab's examination.

Mark on PC Nicole Short's vest

- 34. I can recall that the partial mark was on the yellow part of the vest. It would seem more likely the back area, because there's more of a surface area of yellow.
- 35. When we refer to a mark, specifically a footwear mark, as a complete mark, it means we can see from toe to heel. A partial mark, therefore, is where some of the mark is missing, and thus not complete. The mark on the vest was a partial mark.
- 36. The mark was small in size. It was not a smear or an irregular shaped stain, but rather, it had more of a defined shape.
- 37. In the notes, in Alison Marven's writing, the mark is described as "possibly a triangle", which indicates a shape with an apex and two sides. It only mentions a shape, not a pattern of multiple shapes.
- 38. There are marks (plural) noted on the vest, however these marks are separate from each other and are not in combination or close proximity with each other to be a footwear mark.

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39. In October 2019, the Procurator Fiscal emailed to ask if the darker partial mark noted on the hi-visibility vest below the police marking was on the front or the back of the vest. I could not and do not recall this and it is not on my notes.

Comparison of mark and boots

40. When we carry out a Footwear Mark Comparison examination, we look at the mark (it could be a photograph of a mark or an impression on an object) and determine if it could have been made by an item of footwear. We are looking at patterns, pattern elements and pattern size.

41. With regards to the mark on the vest, no meaningful comparison could be made between the partial mark and the boots. Since the mark noted was partial, which possibly comprised of two sides in a 'triangular shape', and it was on its own (as a standalone, single entity) with no other pattern elements in its vicinity, no meaningful comparison could be carried out. The mark could have been made by anything.

42. Or the mark could be a smear, with the fabric having been folded in a particular manner.

43. Both Alison Marven and I examined the mark.

44. In my notes I have prints of the soles of the boots. I have been asked if the partial mark with two sides, possibly a triangle, are similar to the tread on the prints. Like I said before it was just one, singular, darker staining/mark on its own but not complete. Comparing the singular mark to the pattern elements of the soles of the submitted boots would not lead to a meaningful comparison, as there are no other surrounding pattern elements (which are present on the boot) in the mark on the vest. So it could be any object, having contact with the vest, that left the mark.

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45. We also consider how the mark is made and also where on the item it is. So we consider the areas of contact. The mark noted on the vest is very limited in size and is a partial mark. The sole of the boots we examined have many different pattern elements, which could potentially be in contact with the vest.
46. If it was the boot that made that mark or that partial fragment of a mark, I would expect to see more of the other elements around it to show up as well, not just the one. In this instance I would find it unlikely that one pattern element of the sole of the boot has, for instance, contacted with the ground and gets wet and the rest of the shoe doesn't. It's not like there's one bit on the sole of the boot that sticks out in a different plane from the rest. That would have to have contact with the ground and get wet and the rest of the shoe doesn't, for that to be transferred and to leave that one pattern element and nothing else. I'd find that very unlikely to happen.
47. I have been asked if there is anything in my report to take into account that 25 days had passed between the incident and our examination, in relation to examination of the mark. We consider, for example, what substance the mark is made of, what surface the mark has transferred on to. In this case, as the mark was on fabric, we would consider whether the substance had been absorbed, or if the material could be easily stained. We consider the different aspects and factors when examining marks on different surfaces. I cannot recall what state the boots were in, if there was mud or grass or anything else on the soles of the boots, which could be transferred onto another surface. There is nothing as such recorded in our notes. There was mentioned, however, the degree of wear and that there were some trapped stones in the sole of the boot.
48. Given the size and shape of the mark, any number of objects could have made the mark. There are many factors, ways and means for an object to have made this mark. This mark could have also been made prior to this

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incident. We do not know what state the vest was in, how clean it was prior to PC Nicole Short wearing it on duty that day. It could have been dirty from before and the vest had not been cleaned. We cannot date when the mark was made. Given the unknowns, we cannot comment on the relevance of this mark.

49. But also that it was such a small enough mark that there's no examination possible because it could have come from any number of things and we can't put a weight on any of them. So, we would say that there is insufficient detail because there's just not enough for a comparison for any meaningful relationship between said boots or even the relationship between objects on the ground where this incident happened, or even a past incident. It could have been from any scenario in the past that we don't know about and we don't know what could have made that mark. It could have been swiping against a dirty surface, leaving it lying on an ink pad.
50. I don't know what material the mark is made of. We just know that it was a darker staining, a darker substance that's on the yellow vest. Assuming that, when they are issued new they would be clean, there would be nothing on it. So this is some foreign material, foreign substance that's been added to the vest.

The knife

51. The knife labelled 'grass verge' - SD918 - this particular production was within a plastic knife/weapons tube. It was sealed with brown tape.
52. The knife labelled 'grass verge' had the tip missing. It appeared a small fragment of the sharp tip was broken off.
53. We didn't examine the tip of the knife in great detail, only noted that it was broken.

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54. A very small fragment of white material was noted on the blade surface. This was recovered for analysis.
55. The knife appeared to be part of the set of knives taken from Mr Bayoh's home. This conclusion was reached as they bore similar manufacturer's "House and Home" markings and general appearance. They are all different shapes and sizes but the markings would indicate they are part of a set. But equally if there was another set with the same markings the knife could have come from another set missing that particular size and shape of knife.
56. There was no staining on the knife. It looked clean aside from the white material mentioned above and the missing tip. There was nothing else unusual or extraordinary.
57. My colleague and I could not categorically say that the white material on the blade was paint. However, we titled it 'paint' for the purpose of the analysis comparison to the paint from the motor vehicle.
58. In this instance, the sample of the material was very small, a fragment. Due to the size, texture and consistency, it wasn't obvious that it was paint. So we would call that material as a more generic term unless we could conclusively state it was paint.
59. The next stage was a visual comparison – the sample from the motor vehicle and the blade were judged to be of similar colour (white). We then used a variety of fluorescent lights to see if the two materials reacted similarly.
60. When we examined the samples under a fluorescence microscope, we could see that there was differences in the way these two reacted under light, one glowed and one didn't.

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- 61. That told us that these two samples were of different chemical compositions.
- 62. We did not carry out any chemical analysis, which could determine the chemical similarities or differences between the samples. This analysis was not necessary due to the results of the previous light test.
- 63. The instrumental analyses carried out (for this examination) within our laboratory are for comparison purposes, between an unknown and a known sample. These instruments are not for identification.
- 64. We could only conclude that the two materials were different, but not what the material found on the blade was definitively; only that it did not match the samples of paint from the motor vehicle.

Miscellaneous

- 65. I have not been following any details about the case in the media. I have not discussed any details of the case or my initial report or statement with any colleagues.
- 66. I have not provided a statement to PIRC in an interview. The only statement they have would be in our report. A statement like this is very rare, we find, and when it does happen it's more of the time it's on the defence side rather than prosecution side.
- 67. I believe the facts stated in this witness statement are true. I understand that this statement may form part of the evidence before the Inquiry and be published on the Inquiry's website.

May 17, 2022 | 5:06 PM BST
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